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Essays and Cases.

ART. 1. *An Inquiry into the Anatomical Condition of the Alimentary Canal, in its Healthy State.* Extracted from the Pathological Anatomy of PROFESSOR ANDRAL.

EDITORIAL NOTE. We propose in due time, to lay before our readers, a full analysis of the comprehensive and deeply interesting Treatise of M. Andral on Pathological Anatomy, just republished and beginning to circulate in the United States. Meanwhile we are constrained to extract the entire chapter, on the appearance of the stomach and intestines after death from violence, or from diseases seated in other parts of the body. It is notorious, that very few physicians, in this country, are well acquainted with the appearances which may be presented by the gastro-enteric mucous membrane in its healthy condition; and none who are not, can be prepared to appreciate or report its morbid phenomena. We would especially commend this chapter to the attention of the profession, at a moment when they are about to grapple with a mortal epidemic, the fury of which seems to be in a great degree spent upon that membrane. By careful meditation upon the results

of the numerous observations of which M. Andral is either the author or the historian, they will be better prepared to benefit themselves and the profession by their *post-mortem* examinations of those who may die of Cholera. In fact, it is indispensable, that they who would recognize and describe a morbid structure, should have a clear and vivid idea of its *healthy* condition. For want of this knowledge, many autopsic reports have undoubtedly abounded in mistakes, of which those who made them were entirely unconscious. A diligent study of the chapter we are about to present, must obviate much of this error; and give increased precision and value to our dissections. D.

"*Of the alimentary canal in the healthy state.*

"There has been hitherto so little agreement on the subject of the natural appearance of the stomach and intestines, that I consider it indispensable to determine accurately what is the anatomical condition of the alimentary canal in the healthy state. Perhaps one circumstance which has long been an obstacle to the ascertainment of this point, is the great frequency of grstro-intestinal alterations. As there are very few subjects in which some of these are not met with, anatomists had become accustomed to consider them as belonging to the natural state of the parts; and they seemed the more warranted in doing so, as, until very lately, the symptoms produced by these alterations were either totally unknown or ill understood.

If we examine the internal surface of the stomach or intestines in a living animal, that is not struggling, and whose circulation is not disturbed, we find it of a red tint somewhat deeper than that of the mucous membrane of the cheek in a healthy man. If we examine the same animal after death, we find that this red tint has disappeared, and that the surface is now uniformly pale, or, at most, very slightly rose-colored. In order that the experiment should afford these results, the animal must be deprived of life in such a manner as not to lose too much blood, on the one hand, as the natural paleness of the intestine would then be increased; or to die in a state of asphyxia, on the other, as the mucous membrane would then be mechanically injected; which, though not a morbid, would not yet be the natural state.

I think we may conclude from this experiment that, after death, the mucous membrane of the stomach and intestines tends to lose its color like the skin.

There have been frequent opportunities of examining bodies in cases of accidental death, where the individual was apparently in the enjoyment of perfect health a few minutes previously. In most of these cases, also, the alimentary canal has been found free from any red tint.

Sometimes, however, different degrees of injection have been observed on the internal surface of the stomach or intestines, as well in animals supposed to be sound, that were sacrificed to physiological experiments, as in men in cases of accidental death. To this it may be answered in the first place, that if the alimentary canal had been found oftener without any redness under the same circumstances, it is very probable that in the cases where the redness was observed, it arose from disease. But, besides, the appearance of the parts that were found injected should have been described with more care and precision; and a detailed account should have been given of the kind of death the animals suffered, and of the space of time that had elapsed between the accident and death in the other cases.

There are, in fact, certain circumstances under the influence of which the alimentary canal, though free from disease, may yet present various degrees of red coloration in the dead body. Of these circumstances, some may have operated a certain period before death, others only during the last moments, and lastly, others either soon or at some length of time after the cessation of life.

Of the causes which operate before death, some are physiological and others pathological. Thus, it is an undoubted fact, that, during the process of chymification, the internal surface of the stomach acquires a considerable degree of redness, as well as that the small intestine does the same while the separation of the chyle is taking place in it: any one may convince himself of the truth of these assertions by examining living animals. But, beside, it has been ascertained by observation that this redness that is produced by digestion continues after death; so that on opening the body of any individual that has died while chymification or chylification was going on within him, we shall find those portions of the alimentary canal in which the process had been taking place of an unusually high color.

The pathological causes are all such as act by presenting some obstacle to the free return of the venous blood from the gastro-intestinal parietes to the right cavities of the heart. There happens then to the mucous membrane of the alimentary canal what happens to the skin in persons who die of asphyxia: in such cases, we observe the cutaneous surface long before death acquiring a constantly an increasing color from the venous blood; now, what takes place in the skin must also take place in the intestine. We may assure ourselves directly of this by examining a coil of intestine in an animal who is slowly suffocating, when we shall find that, as the respiration becomes more difficult, the coil assumes a more intense and uniform red hue. Lastly, if, as Boerhaave did long ago, we prevent by a ligature the circulation of the blood in the trunk of the vena portæ, we shall observe the whole of the internal surface of the intestines assuming a fine red tinge, which is compared by Morgagni to the color of cochineal; and sometimes, even, blood transudes, through the parietes of the distended vessels, and fills the intestine. These facts being known, it is only drawing the conclusion from them to establish that, every time the blood cannot return freely from the capillaries of the intestinal

mucous membrane to the venous trunks, that membrane will continue colored after death. Hence arise the various shades it presents in case of strangulated hernias, for instance, or of obstructions of the liver, of tumors situated on the course of the principal divisions of the vena portæ, of obliteration of the vein itself by old coagula, and, lastly, of organic affections of the heart. If, however, there was but little blood in the body, whether through defect or sanguification, or in consequence of recent copious bleedings, a considerable obstacle to the venous circulation, would produce a less intense coloration of the alimentary canal, than that which would arise from a slighter obstacle existing in a person whose vessels contained a great deal of blood a short time before death.

The red coloration of the gastro-intestinal parietes in consequence of some mechanical obstacle to the venous circulation, presents various degrees of intensity. In the lowest of these, the sub-mucous cellular tissue alone is colored, but not in its capillary network; it is traversed in various directions by bluish veins of pretty large calibre, which cease to be injected on arriving at the mucous membrane, while their other extremities are continuous with the mesenteric veins, which are themselves equally gorged with blood. In a higher degree of injection, depending quite as much on mechanical causes as the preceeding, the mucous membrane itself begins to assume a tinge, and, according to the size, number, and relative situation of the injected vessels perceptible to the naked eye, it exhibits either simple branches, separated by large colorless intervals, or ramifications of greater or less extent, produced by the injection of the smaller vessels, or lastly, a redness considerable enough to produce a complete opacity of the parietes where ever it exists. According as these various shades of coloring are extended or circumscribed, the result will be either a diffused redness of the intestine without any precise limits, or else streaks, stripes, patches, or mere points. In fact, there is not one of these appearances that may not be produced by a simple injection from a hyperæmia either mechanical or passive; and he would be strangely mistaken who should imagine that the dotted redness, for instance, more necessarily announces an active hyperæmia than does the simple congestion of some of the submucous veins. In these different cases, on attentively examining the injected parts, we may perceive that the injected vessels are directly continuous with the great veins subjacent to the mucous membrane, just as these latter are continuous with the mesenteric.

If the obstacle to the return of the blood from the intestines to the heart is still more considerable, or, if, what comes to the same thing, the obstacle not being increased, there is an increase of blood in the vessels, that fluid escapes from them, and becomes effused, either into the submucous cellular tissue, where it forms ecchymoses, or into the cavity of the intestine itself, where it communicates a reddish tint to the bile, mucous, or other matters that happen to be contained in it. The facility with which a liquid or gaseous injection may be made to penetrate into the intestinal cavity when driven into the mesenteric

veins from the trunks towards their branches, explains how, under the influence of a considerable congestion of the same veins, a part of the blood contained must have a tendency to escape into the interior of the alimentary canal.

Thus, on summing up all that we have learned both from simple physiological reasoning, experiments on animals, and the examination of dead bodies, we are led to conclude, that the gastro-intestinal mucous membrane may be indifferently white or red, without either of these colors necessarily indicating that the membrane had been in a morbid state; it is either white or red, of various shades, according as there has existed before death some one of the conditions, mechanical, organic, or vital, which we have endeavored to explain. Now, as those which produce the red coloration exist the most frequently, it follows that, in the dead body, we should more frequently find the alimentary canal injected than colorless. But that is not all: after life has ceased, new causes arise which tend to produce new modifications in the color of the intestines, and to inject some parts of it much more strongly than they were at the moment of death. The causes of redness produced after death may be reduced to two principal ones: one, the weight of the blood, and the other, its transudation through the parietes of its vessels.

The first of these causes begins to act immediately after death. The reality of its existence has been fully proved by MM. Trosseau and Rigot, in a memoir abounding in interesting facts and ingenious views.

If we fix to a nail the two united extremities of a coil of intestine supplied by veins gorged with blood, we shall perceive, after a short time, the most dependent part of the coil constituting the middle of the convexity of the curve thus formed, assuming a very marked red color, while the less dependent parts become paler and paler, and the mesenteric veins get rid of the great quantity of blood they contained in the vessels of the intestinal parietes, provided it be liquid, changes its place after death, and tends to accumulate in those parts of them where it is attracted by the laws of gravitation. Now, if this takes place in a coil of intestine separated from the body, it must occur equally in the interior of the abdomen, where the same physical law must also act. To settle this point, MM. Trosseau and Rigot began by placing the bodies in such a situation that the influence of gravitation should be beyond all doubt. Thus, upon leaving in a vertical position for several hours, the bodies of some dogs that had been previously strangled, they ascertained that, in those parts of the intestines that had been thereby rendered very dependent, the mucous membrane was of a lively red, its villi were strongly injected, blood was effused into the interior, where it tinged the bile and the mucus, and there were ecchymoses in the submucous cellular tissue. In other dogs, which had likewise been strangled, but were then placed on the belly, the portions of intestines which were more dependent in this new position were most highly colored. In horses killed by cutting the spinal cord, and placed afterwards on their back, but yet so that

the bodies were sometimes more inclined to the right, and sometimes to the left, they found in like manner that the coils which were the most strongly injected, nay, the only ones which were so at all, were those in which the law of gravitation should have exerted its greatest influence in these various positions. They also remarked in the course of their experiments, that those which were shrunk and contracted, so that their vessels were doubled on themselves, were not injected, although placed in a dependent position. In the horse, on the contrary, the superior portions of intestine, *which were remarkable for their great diameter*, were found to have their under side injected frequently enough. If, on opening the body of an animal which has just died, we fix certain portions of the alimentary canal in a dependent position, and examine them again some time afterwards, we find them injected, though they were not so at the time of the first examination. M. Trosseau tells us he opened, six hours after death, the body of a man who died of a typhus fever: on examining some dependent parts of the ileum, they appeared to have a slight red tint, while the superior parts were, on the contrary, colorless: the intestines were then replaced. Next morning, on examining those dependent coils which had not been opened the preceding day, as well as those which had been partially so, he found them full of mucus colored by the blood, which had imparted a violet tint to their internal membrane. These facts fully confirm my own observations. For this long time back, while examining the bodies opened at *La Charite*, I have constantly been struck with the circumstance that those coils of the small intestine which are more dependent than the rest, those, for instance, which are sometimes found sunk in the hollow of the pelvis, are also more strongly injected. It becomes a question whether this coloration from hypostasis can occur in the small intestine only; it certainly can occur with more facility there than elsewhere, by reason of its disposition, and of that of the vessels distributed to it. I am, however, strongly inclined to think that, in certain cases, the redness observed on the great extremity of the stomach, and on its whole posterior surface in general, (that being inferior in the subject,) results in like manner from this accumulation of blood by hypostasis. I am the more disposed to this opinion, from finding it mentioned in my notes that, in a case where a body had been laid upon the abdomen a short time after death, preparatorily to opening the spinal canal, and remained several hours in that position, the anterior part of the stomach was injected, and dotted with red, while the posterior part was pale. At the time I imagined it to have been caused by gastritis; but I should not be apt to think so now.

The redness of the intestinal parietes that is produced, wholly after death, by injection from hypostasis, the reality of which I have just now proved, presents various degrees or shades, like the redness from congestion, either mechanical or passive, that had been previously under consideration. Thus, we may find the villi highly colored, and even blood effused into the interior of the intestinal canal. This, however, very seldom happens, except in experiments on animals that are strangled,

and kept in the vertical position for several hours after death. In such cases, in fact, every thing is most favorably disposed for the blood's being drawn in the greatest possible quantity to where it is attracted by the law of gravitation. Nothing similar has ever been observed in the horses killed by pithing, or by knocking on the head; and, in the human subject, the determination of the blood towards the most dependent parts of the alimentary canal, most commonly produces in it only an injection more or less strong of the mucous membrane or of the subjacent cellular tissue; which may produce either a diffused tint with an appearance of ramifications, or circumscribed blushes in form of points, spots, streaks, &c.

Injection from hypostasis begins to take place immediately after death, acquires its highest degree at the end of some hours, and ceases to be continued as soon as the blood, having cooled, begins to coagulate. Hence it follows, that in subjects whose temperature is long kept up either naturally or artificially, and in which the blood continues fluid, the injection of the intestines from hypostasis, will be much more decided than under the opposite circumstances. It will also be more considerable when, after acute diseases, a great deal of blood still remains in the system; and when, in consequence of a slow death, or of obstacles to the circulation, the intestinal veins were gorged with blood at the moment of the cessation of life.

As soon as a certain space of time has elapsed after death, a new cause of coloration begins to act: as soon as putrefaction begins to seize upon the body, the blood contained in the vessels, both large and small, of the gastro-intestinal parietes exudes through the membranes of those vessels, and is effused in variable quantities into the surrounding tissues, especially into the submucous cellular tissue. On this extravasation of the blood depend, for instance, the red spots almost always observed in the stomach along the veins of its great extremity, when the body is opened more than six and thirty or forty hours after death. These spots thus assembled along the course of the vessels are sometimes isolated, and sometimes grouped together and running into one another, and in this manner mark the surface of the stomach with streaks and bands of various figures. If after having observed the stomach in this condition, we leave it, and examine it again in a latter period, we find that the redness has increased, and that, moreover, it appears in a new form: it no longer exists solely along the vessels, but the whole surface of the stomach presents a tinge which has a constantly increasing tendency to become uniform; and a period at last arrives, when all the membranes, having become soaked with blood, are equally red; they may then have a tint almost similar to that which we observe on the internal surface of the arteries when stained by the contained blood. This kind of redness formed after death cannot, however, proceed to such a high degree, unless in cases where a certain quantity of blood existed in the vessels of the stomach at the moment of death; and as, from the effects of gravitation, that fluid accumulates towards the great extremity of the stomach in particular, it follows that it is there we should see

the redness from transudation most strongly marked. It would be useless to attempt to fix precisely the period at which this transudation should commence; for, in order to do that, we should fix precisely the period at which putrefaction commences. Now, that period is very variable, as it depends, 1. on certain conditions relative to the body itself; such as the kind of death, the nature of the disease that produced it, &c.; and, 2. on certain external circumstances, especially on the thermometrical and hygrometrical states of the place in which the body is. Accordingly, when, in summer time, we open bodies that have been kept, since death, in warm beds, and in rooms of a temperature at least as high as that of the external air, it is usual to find, so soon as after four and twenty hours, very evident marks of transudation in the alimentary canal: in such cases, for instance, I have often found all the membranes of the great extremity of the stomach of a uniform red tinge. Under similar circumstances the coloring matter of the blood may likewise transude, spread over the internal surface of the canal, and mix with the fluids contained. I have ascertained this to be the case in most of the bodies I had occasion to examine in the very warm summers of 1825 and 1826.

The spleen, also, may suffer some blood to transude through its parietes; and this may then soak into the adjacent portion of the stomach and impart its color to it. This kind of coloration, however, is less frequent than that which results from the transudation of the blood through the parietes of the gastric vessels. One of the circumstances that must have some effect in producing a variation in this cause, is, undoubtedly, the difference of the states in which the blood may be that is contained in the spleen; as the more liquid it is, the more readily must it soak through the enveloping membrane of that organ.

Lastly, even at the time we are engaged in examining the internal surface of the alimentary canal in the dead body, we may often produce in its mucous membrane, by scraping it with the back of a scalpel, a redness which not only did not exist during life, but which was not even apparent before the scraping. The effect of this operation is to squeeze into the finest vessels of the mucous membrane, and into a single point in those, the blood which being before that dispersed in the mass of the surrounding vessels, was much less apparent: extravasation, even, may be produced in this manner. It is to be observed that this artificial redness can be produced only when there previously exists a certain quantity of blood in the mucous membrane or below it: It most commonly assumes a dotted form.

When we plunge a bladder filled with blood into different gases, the blood becomes singularly altered in color. It follows that whenever these same gases are developed in the intestines, they must also affect the blood similarly through the parietes of its vessels. In some cases that may occur a very short time after death; but these gases being in general produced only by putrefaction, it is not until that process is tolerably advanced, that the gases resulting from it can modify the color of the blood, and change into brown or green, &c., the red tint

which existed during life, or was formed after death by hypostasis or imbibition.

The bile that is found in the alimentary canal after death, in more or less considerable quantities, most commonly lines its internal surface without tinging it; but sometimes the yellow matter soaks into the mucous membrane, combines intimately with it, and produces a yellow tinge, which cannot be removed by washing. This may exist only in isolated spots, or affect a great extent uniformly; and it is often found very strongly marked in the stomach, where bile does not naturally occur More than once, for instance, I have found the whole internal surface of the right half of that viscus stained uniformly of a fine ochre color. I am inclined to think that this may be owing to the presence of an acid in the stomach, which must have a tendency to separate from the bile its yellow matter, which in this free state is more readily imbibed by, and combined with, the adjacent tissues. It is thus that some explain the yellow tinge observed on the mucous membrane of the duodenum in certain cases of poisoning by sulphuric acid.

To sum up; the gastro-intestinal mucous membrane is not of one constant and invariable color in the healthy state. It is perfectly white only in a very small number of cases, which I have mentioned. Besides these, it offers, without ceasing to be sound, different degrees of coloring, depending, 1. on the passive hyperæmia which has always a tendency to take place in the last moments of life in the parts abounding in capillaries; 2. on mechanical obstacles to the venous circulation formed at a longer or shorter period before death; 3. on the hypostatic accumulation of blood towards the dependent parts; 4. on the transudation of blood through its vessels; 5. on another kind of transudation which may take place, in some cases at least, through the capsule of the spleen; 6. on the presence of different gases in the alimentary canal at the moment of death; 7. on the developement of other gases, at a longer or shorter period after death, when putrefaction takes place; 8. on the combination of the yellow matter of the bile with different parts of the gastro-intestinal mucous membrane; 9. and lastly, on the accidental introduction into the alimentary canal of different coloring principles that may stain its internal surface, and thus produce a color more or less perfectly resembling the result of a morbid state.

Of the colors produced by these different causes, some cannot be in any way confounded with that resulting from inflammation; others differ from it only by characters which are often but feebly marked; and, lastly, others, especially those mentioned under the heads 1 and 3, as also some varieties of those under the heads 2 and 4, exactly resemble the color that would result in the alimentary canal from the irritation artificially produced in it by the introduction of a mineral acid sufficiently diluted with water to inject, without disorganizing, those portions of the tissues with which it comes in contact.

It is, besides, important to observe, that, *cæteris paribus*, the color

of the gastro-intestinal mucous membrane presents some shades, according to, 1. the part examined; 2. the age; and 3. whether the process of digestion was going on or not in the stomach or in the duodenum and jejunum at the moment of death. Thus, in those cases in which the mucous membrane is found colorless in the adult, we may observe, as M. Billard has shewn us, that it is whitish in the stomach, of an ashy white in the duodenum and jejunum, that the ashy shade diminishes towards the end of the ileum, and that, finally, in the great intestine, the mucous membrane resumes its dead white color. With respect to age, we learn from the valuable researches of M. Billard, that the gastro-intestinal mucous membrane is rose-colored in the fœtus and in the infant, and of a milky and satiny whiteness in young persons; that, in the adult, it assumes a slight ashy shade, especially in the duodenum and commencement of the small intestine; and lastly, that in old age this ashy shade becomes more decided and general, whilst the submucous veins, being dilated and filled with blood, lift up and impart a color to the membrane covering them. At other times, however, in old persons who die in a decrepid and bloodless state, the mucous membrane is remarkable for its extreme paleness. I am even persuaded that it is in old persons, and in very young children that had died of marasmus, that I have observed the internal surface of the alimentary canal in the most perfectly colorless state.

I have already spoken of the modifications produced in the color of this membrane by the process of digestion.

The natural thickness and consistence of the mucous membrane of the alimentary canal are not less important to be determined precisely than its color.

This membrane, in its natural state, is far from being equally thick throughout. M. Billard has proved, that the *maximum* of the thickness exists in the duodenum, and the *minimum* in the colon. Between these two extremities we find, 1. the pyloric portion of the stomach, in which the mucous membrane of the stomach is almost as thick as the duodenum; 2. its splenic portion, where its thickness is much less; 3. the rectum; 4. the jejunum; 5. the ileum. The great thickness of the mucous membrane of the duodenum depends principally on the numerous folicles distributed through it; in the stomach, it is the body of the membrane itself which has an excess of thickness. M. Louis has attempted to measure exactly the relative thickness of the different portions of the mucous membrane of the stomach. Its thickness in the great curvature amounts, according to him, to three-fourths of a *millimetre;* in the small curvature from a third to three-fourths; and the great extremity, from a third to three-fifths only. (A *millimetre* is .03937 of an English inch.) There are certain folds formed by the mucous membrane, both in the stomach and elsewhere, which contribute to an apparent augmentation of its thickness. Where these folds exist, it often happens that there is a more extensive redness found than in their intervals; this is observed, for instance, in the *valvulæ conniventes* of the small intestine. But when we separate the two reflected portions of membrane that constitute each valve,

by drawing asunder their base at each side, the unfolded membrane does not appear any redder than the neighboring parts.

In the remarks I have just made on the thickness of the mucous membrane of the alimentary canal, I have supposed it to be examined in the body of a person that had died of an acute disease, and whose intestines were not gorged with too great a quantity of blood from one of the causes already pointed out. When that occurs, the thickness of the membrane may be increased by the blood which distends its vessels, without our being warranted in considering it as diseased on that account. On the other hand, in persons who die of marasmus, without having been affected with gastro-intestinal irritation, the mucous membrane of the alimentary canal becomes remarkably thin, falling into a state of atrophy along with the subjacent muscular coat: many other tissues are similarly affected under the same circumstances. This attenuation is particularly remarkable in the stomach, whose mucous membrane, especially towards the great extremity, becomes reduced to an exceedingly fine kind of web. I grant that a membrane so attenuated as that, is no longer in its physiological state, and that its functions must be deranged; it must digest but imperfectly, just as its muscular coat, under the same circumstances, must contract but imperfectly. At this degree, the attenuation of the parietes of the stomach becomes a morbid state; but before it reaches that state we may observe many other degrees in which the diminution of thickness of the mucous membrane of the stomach is physiologically proportionate to certain states of the general nutritive action. Lastly, I think it probable enough that great varieties of thickness of this mucous membrane must occur in individuals, just as is the case with the cutaneous system, and as there are also differences of bulk in the muscular and osseous systems in various individuals.

The consistence of the gastro-intestinal mucous membrane is in general directly in proportion to its thickness. It is much more considerable in the pyloric portion of the stomach than in its splenic portion; in the colon, where the thickness of the mucous membrane is at its *minimum*, its consistence is also very slight. In the stomach, we may allow the mucous membrane to be of the natural thickness, when, on making an incision in it, taking care not to cut the subjacent tissues, especially the nervous, or, more properly, the membranous coat, we can easily detach pretty considerable shreds of it with a forceps: the shreds should be larger in the pyloric than in the splenic portion. In the duodenum its nature is such as not to admit of such considerable shreds being detached as in the stomach. In the rest of the intestines, the rectum excepted, the mucous membrane, even in its natural state, breaks and tears whenever we attempt to detach any portion of it. In these various parts, however, the same physiological conditions which produce a variation in the thickness of the membrane, such as the quantity of blood supplying it, and the general state of the nutritive powers, produce a variation in its consistence. Thus, at the same time that this membrane becomes thinner, it tends also to grow softer, without the previous or present existence of any process of irritation.

The mucous membrane of the alimentary canal may, after death, be modified in its consistence, as we have already seen it to be in its color. This kind of softening has been observed principally in two cases: 1. long after death, when there were already signs of putrefaction in the body; 2. in a very short period after death.

In the first of these cases the membrane loses its consistence but slowly. I have more than once found it not in the slightest degree softened in bodies of persons that had been from eight to ten days dead, in which the intestines were green and distended with gases, while there was exudation of blood into them, together with ecchymoses in the substance of their parietes, and in many parts, emphysema under the membrane. After the tenth day its consistence diminishes, and it then softens gradually; from the fifteenth to the eighteenth day it becomes like pap, and from the twenty-fifth to the thirtieth it becomes quite undistinguishable.

This membrane, when exposed to the air, softens much more rapidly. M. Billard, after opening an intestinal canal, left it extended on a table for twelve days; the temperature of the room was ten degrees above zero, and the sun shown into it every day. The mucous membrane did not begin to soften until the sixth day, at which period putrefaction was already advanced; on the tenth day it was a pultaceous consistence; and, on the eleventh, it was reduced to a very fetid greenish pulp.

On the contrary, this membrane, when removed from the influence of the atmosphere by being placed under water, softens but very slowly. M. Billard, after leaving a portion of intestine for two months in the same water, and not till then, found its mucous membrane perceptibly softened, though it still retained a certain degree of consistence. It was not till three months had elapsed, that it was found to be so softened as to resemble merely a kind of very fetid purulent layer.

It follows from these facts that the *post-mortem* softening of the gastro-intestinal mucous membrane does not occur until the putrefaction is pretty far advanced, and after the usual period of opening bodies in most cases. It would appear, then, that we should not consider the very evident softening of the mucous membrane of the stomach, that is sometimes observed at from twenty to four and twenty hours after death, to have taken place after that event. However, the solution of this question is embarrassed, if I may say so, by some cases in which the mucous membrane of the stomach has been found completely softened, in dogs killed in very good health, and opened shortly after death. Similar facts have been observed by M. Bretonneau. M. Trosseau, who gives an account of them in the *Archives de Medecine* (tom. xii. p. 345) adopts an opinion of Hunter's, who has numerous followers in England at the present day, and attributes this kind of softening to the solvent action of the juices secreted by the stomach. According to several English physicians, the softening might even extend to all the coats of the stomach, and produce a perforation of that viscus after death. The arguments on which they ground their opinion are the following.

1. It has frequently occurred, that on opening the bodies of men, and still more of various animals, the parietes of the stomach have been found singularly softened or perforated, although before death there had been no symptoms of any gastric affection, and most of them had been killed while apparently in the enjoyment of perfect health. Adams has found such perforations in the stomachs of dogs; Carlisle and Cooper in those of rabbits; and Spallanzani in those of fishes. Before that, Hunter had found the stomach perforated in a prisoner who had starved himself to death.

2. In these cases, no traces of peritonitis were discovered around the perforation; which should necessarily have occurred if the communication between the cavity of the stomach and that of the peritoneum had been formed during life.

3. Doctor Allan Burns found, in a human body, the stomach perforated in that part where it is in contact with the liver. Having ascertained that the latter was uninjured, he proceeded, two days afterwards to examine the parts anew, when he found that new changes had taken place; the portion of liver which supplied the place of the deficient parietes of the stomach was itself remarkably softened and broken down: still, there was as yet no sign of putrefaction in the body. In this case, as Mr. Burns observes, it is not evident that this kind of liquefaction of the liver was owing to the solvent action of the same juice which had previously attacked and destroyed a portion of the gastric parietes?

4. From a young man of a sound constitution, who had a fistula of the stomach in the epigastrium, in consequence of a gunshot wound, Dr. Lovell, surgeon in chief of the armies of the United States, collected a certain quantity of juice which flowed out through the fistula. The juice, which was received in a bottle, was put in contact with some meat, when it was observed that it dissolved it with great activity from the surface to the centre: the meat, says the narrator of the experiment, dissolved like a piece of gum arabic when kept in the mouth. Now, if the gastric juice is so active as that, is it not easy to conceive that if, after death, it happens to be in the stomach in a certain quantity, and possessing certain qualities, it may dissolve the coats of that viscus, just as it dissolved the dead flesh in the experiment?

Are we then to admit, as proved by these facts, that the parietes of the stomach may be softened and perforated by the gastric juice after death? I think, myself, that the facts should be taken into consideration, but that they are neither sufficiently numerous, nor circumstantially enough detailed, for us not to wait for new observations on the subject to confirm or contradict the conclusion drawn from them.

As the follicles, both isolated and aggregated, that are distributed over the gastro-intestinal mucous membrane, play a principal part in its diseases, it is of importance to determine accurately what varieties of appearance they may present, without yet ceasing to be in their physiological state.

In most adult subjects in which the alimentary canal does not appear to have undergone any alteration, very manifest follicles are found

but in two parts; namely, around the cardiac orifice of the stomach, and in the duodenum. Moreover, in the inferior portion of the ileum, there are certain spots found where the parietes of the intestine seem to the touch to be thicker than elsewhere, and on being placed between the eye and the light, have not the usual degree of transparency. It is there that those aggravated follicles, known by the name of *the glands of Peyer* make their appearance in other subjects.

In children the follicles are naturally more developed, and appear in a greater number of parts. Thus, in them, even when there has been no indication of the existence of any intestinal affection, it is quite common to find on the internal surface both of the small and of the great intestine small round bodies, of a white or greyish color, and with a central orifice, the circumference of which is very often of a deep grey; which are, very evidently, nothing but follicles. In many children, too, in whom the intestinal canal appears equally free from any morbid alteration, besides these isolated follicles, others are found crowded together, and lying close on one another in immense numbers, so as to form by their assemblage, very large patches that may occupy an extent of from one to three feet in the small intestine. In the centre of each follicle is often found a point of bluish grey or black; which produces a dotted appearance throughout the patch. As I have found these patches (*the aggregated glands* of Peyer) thus far developed, and thus colored, in children who died suddenly in consequence of accidents, or of diseases that had no relation whatever to the digestive apparatus, I think I may assume as a fact, that they do not constitute a morbid state in childhood. But are they a proof of disease in the adult? It is true enough that, in many persons that die of or with chronic diarrhœa, the most remarkable and striking change found in the alimentary canal, is an unusual developement of the follicles, resembling what we have just now seen existing naturally in children. Besides, of many other individuals who died of some other disease while recovering from gastro-enteritis attended with severe symptoms, such as are termed adynamic and ataxic, I have often found on the internal surface of the alimentary canal, near the end of the ileum, the aggregated glands of Peyer appearing in the form of vast patches dotted with black. I believe that, in this latter case, the dotted patches discovered on examination after death, indicated that the follicles were in a state of hypertrophy, resulting from the recent irritation that had affected them. But this state of hypertrophy might have continued without producing any bad effect, as is proved by the fact that in many other adults the follicles are found in a similar state, although at the time of their death there had been no sort of disease in the *primæ viæ*. To conclude then, I think that the great developement of the intestinal follicles is not a natural state in the adult: it may result from an antecedent process of acute inflammation, and continue as a vestige of such process; it may also occur without any appreciable trace of antecedent irritation, being connected simply with an increased action of the regular process of nutrition; or, if you please, it may depend on the nutrition of these follicles continuing to

be as active in the adult as it was in the child. It is thus that the liver may continue as much developed in the adult as it was in the early period of its existence; it is thus, too, that in a man of middle age, although free from disease, the different lymphatic ganglions may be found as large as they are in children.

It follows from these considerations that the intestinal follicles, as well those which are isolated as those which by their aggregation towards the inferior portion of the ileum, form the plexus of Peyer, may, in the adult be sometimes apparent, and sometimes almost imperceptible, without either of these states being really morbid; so far as that each may occur without producing any disorder of the digestive functions. We learn, besides, from comparative anatomy, that a very great developement of these follicles is natural in some animals. Thus, in most of the dogs that are sacrificed to physiological experiments, there are found in the small intestine numerous extensive patches dotted with black, exactly resembling those found also in the human subject, but yet so far from constantly, that when they are met with they are considered as morbid. They have been likewise observed in the intestinal canal of numbers of sheep killed in the slaughter houses. I have also very often discovered them in horses; but as I know not whether they had had any affection of the *primæ viæ* or not, I cannot, in their case, as in that of the other animals, bring forward the existence of these patches as a proof that they belonged to the healthy state.

The tissues subjacent to the mucous membrane present, in the healthy state, the following characters.

The submucous cellular tissue ought to have the appearance of a white layer, of a pretty great density, and traversed or not by a certain number of veins more or less gorged with blood. The muscular coat should be pale, resembling in color the muscles of white blooded animals; it should have its *maximum* of thickness in the pyloric portion of the stomach and in the rectum, and should appear thick in proportion to the contraction of the intestine. In persons who die in a state of marasmus, without any chronic irritation of the intestinal canal, the gastro-intestinal muscular coat becomes remarkably wasted. The cellular tissue interposed between this coat and the peritoneum is almost imperceptible in the healthy state: we must attend to this fact, because, in certain morbid states, this tissue may become hypertrophied, and contribute to the formation of various tumors. Nothing is more variable than the capacity of the intestines in different bodies. But we must take particular notice that we may find the intestinal tube exceedingly narrowed on the one hand, without its presenting any appreciable lesion.; and exceedingly wide, on the other, although presenting indubitable traces of irritation. Sometimes it is found narrowed in a single spot, so as to form a kind of strangulation; while, either above or below it, the intestine is very wide: there is, however, no more trace of irritation in the contracted part than elsewhere. I have frequently observed a great whiteness on the internal surface of stomachs that were so shrunk as hardly to surpass the bulk of the colon.

I have found that other stomachs, which had been disorganized by the action of sulphuric acid, were very large.

The internal surface of the alimentary canal ought to be lubricated, in the healthy state, by a moderate quantity of greyish viscous mucus, capable of being collected, in form of a pretty consistent pulp, on the blade of the scalpel, by slightly scraping the membrane with it. In the stomach, this mucus, when not mixed with the *ingesta*, is in a state of purity; it accumulates and is ultimately digested when no aliment has been taken for a long time. The secretion of this mucus is promoted by introducing some inert body into the stomach; such as a pebble, round which it collects, or a sponge, which may then be withdrawn impregnated with it. In the small intestine, it is mixed with a certain quantity of bile; in the great intestine its place is supplied by fæces, which are often found in great quantities in the colon of persons who yet have not eaten any thing for a long time."

ART. II. *On the Use of Digitalis in Amenorrhœa,—Paramenia Obstructionis, with Cases of its successful Administration.* By W. T. S. CORNETT, of Versailles, Indiana.

So far as I know, Digitalis has never as yet been noticed by the profession as possessing Emmenagogue properties, nor is it my purpose in this paper to contend that it exerts any direct or specific influence over the functions of the uterus, a remark which, I think, may with propriety be extended to the whole catalogue of Emmenagogue Medicines; but, that under certain circumstances Digitalis may be used with success in Amenorrhœa, and even where the ordinary remedies used in such cases, fail to restore the healthy functions of the uterus, the result of my experience leaves me in not the slightest shadow of doubt. The manner in which my attention was first directed towards this remedy in Amenorrhœa, was, I confess, accidental. I had conceived no views a priori of its modus operandi which were calculated to give origin to the belief that it might be used with advantage as an Emmenagogue. About five years since, Miss M—— U——, ætat. 19, came under my care, laboring under Paramenia Obstructions. There had been

no appearance of the catamenia for the last twelve months. She was a girl of stout robust constitution and sanguine temperament. The case was produced by cold, from exposure to the night air. When she came under my care, the prominent symptoms were, pain in the heart, dry hacking cough, almost constant headache, constipation of the bowels, exacerbations of fever every afternoon, pulse small, tremulous, and slightly corded, loss of appetite, sallow complexion, and general anasarca. Also, pain in the epigastrium, distention of the stomach with flatus, acid eructations, &c. In the first place I adopted the usual course in such cases, which it is unnecessary to detail, with no alleviation whatever. The course was pursued until the case had advanced so far toward a fatal termination that I deemed it wholly unnecessary to continue the treatment. Her friends were, however, unwilling for me to discontinue my visits, and insisted on at least a palliative course. With a view of mitigating in some degree the distressing pectoral symptoms, I directed the Tinct. Digitalis, commencing with the usual dose, increasing the quantity daily until the system became sensibly under its influence. The result was, in a short time, relief of the difficulty of breathing, pain in the heart, &c., also, subsidence of the hydropic swellings, and a general improvement in appearance. The remedy was continued, with occasional intermissions, to prevent accumulation, for the term of six or eight weeks, when the menses appeared, bringing entire relief to all the symptoms. Within the following six months, one or two interruptions occurred to the regular appearance of the catamenia, but prompt relief was afforded by resuming the Digitalis. It will be proper to remark here, that from the commencement of the administration of the Digitalis, no other medicine was given except an occasional laxative. The result in this case induced me again to have recourse to our medicine in subsequent cases.

Case 2. In April, A. D. 1830, I was called to attend Miss J——, a hiredgirl, æt. 18, who had labored under Paramenia Obstructionis for the last six months, in consequence of having taken cold. When I first saw her she com-

plained of pain in the heart, cough, headache, pain in the back, loins, and hips, evening exacerbations of fever, palpitation of the heart, loss of appetite, obstipatio intestinum, œdematous swellings of the feet and legs, and leucorrhœa. Previous to my having been employed in the case she had been treated by another physician without success. I determined to try the effects of the Digitalis, with the assistance of no other remedy except an occasional laxative, which was indispensable on account of constipation of the bowels. In nine days after commencing the Digitalis, the menses made a partial appearance, attended with considerable pain. The medicine was still continued with an occasional intermission, as in case 1., and in four weeks, a copious flow of the catamenia, unattended with pain, ensued. Treatment was now discontinued, and my patient resumed her ordinary occupation, free from disease.

Case 3. In July, 1830, I was called to see Miss M——, who informed me that she had taken cold 18 months previous, which caused suppression of the menses. Medical aid was called in, and after a protracted treatment the menses made a partial appearance at irregular intervals, accompanied by severe pain in the back, loins, &c., constituting an aggravated case of Dysmenorrhœa. Her general health had gradually declined. When I was called to attend her she had again taken cold; the effect of which was entire suppression of the menses, accompanied with alarming hæmorrhage from the lungs; she also had pain in the heart, cough, and general emaciation. In the first place, measures were of course taken to arrest the hæmorrhage, after which, the Digitalis was used alone, as before. In two weeks, under its influence, the menses appeared, unattended with pain. The pulmonary symptoms immediately subsided, and a degree of health was restored, to which she had long been a stranger. I might enumerate other cases which would go equally well to establish the utility of Digitalis in Paramenia Obstructionis, but think it unnecessary. The above cases have been selected because other treatment had been previously adopted without success; and because of their long standing it cannot be reasonably inferred that the vis medicatrix naturæ alone produced the

cures. It is not my design to enter the lists with those who cavil about the modus operandi of the Digitalis. I have given the the result of my experience with it in Paramenia Obstructionis, with the full belief that it is a remedy worthy the attention of the profession, in such cases as I have detailed, and hope its merits may be investigated by those who are more competent to judge than myself. It is well known to the profession, that medicines producing apparently the most opposite effects, do, occasionally, under different circumstances, produce a re-appearance of the catamenia. Suppression of the catamenia depends frequently on causes directly opposite, and, of course, the treatment must vary accordingly. Debility and lax fiber are frequent causes; but in my practice, which is chiefly in the country, it is depending on an opposite state of the system oftener than otherwise; and hence I infer, that Digitalis acts favorably by lessening the general excitement and producing that general relaxation of the system, and also of the vessels of the uterus which is necessary to the re-establishment of healthy action; and also, it may act favorably by determining to the kidneys. Notwithstanding all the means that have hitherto been employed by the profession, there are yet many cases of Amenorrhœa that wear on until death winds up the catastrophe. Whether this consequence is sometimes inevitable, or whether it is owing to the yet imperfect state of pathological views and remedial means, I am not prepared to say. But certain I am, that there is no class of affections that call more loudly upon the energies of the profession. There is no disease to which the female sex is liable, that is regarded with more anxiety, and perhaps none more to be dreaded in its progress toward laying waste the constitution, than disturbed uterine function. Upon the healthy performance of this law of her nature the brightest hopes of the female are suspended. Destroy this, and you destroy, (I had almost said,) the whole object of her life. Her day dreams of happiness had been transient as the mists of man: she looks abroad upon society with the feelings of one never destined to enjoy its blessings. The whole face of nature has become desolate and dreary as the shades of night, or the barren wilds

of an unfrequented desert;—friends and society have lost their charms, and the landscape its beauty. The azure vault of heaven, bespangled with its myriads of luminaries, cheers not her fading soul;—the clouds that hang on high, are the mourning curtains of the universe, and the rolling of the distant thunder is but the knell of all her hopes, save that of Heaven.

Editorial Note. Since reading the above article we have met with the following remarks upon the use of digitalis in chlorosis, which without at all detracting from the merit of the author of this essay, go to prove that the tincture of digitalis has been successfully resorted to by other physicians.

"When effusion has taken place into the cavities of the body, occasioning difficult breathing, attended by œdema and a scanty secretion of urine, diuretics are the most efficacious remedies; and of these, the most reliance may be placed on digitalis, of which, ten drops of the tincture, with twenty of nitrous ether may be given three times a day. This medicine, by promoting the secretion of urine, relieves the breathing and other symptoms so effectually that Dr. Hamilton, who was much struck with its effects, recommends it as the most effectual remedy in all the stages of chlorosis; supposing this disease to depend upon a weakened condition of the lymphatic system, which is stimulated by this combination into a healthy activity. Dr. Hamilton prescribes one part of the tinct. of digitalis with two parts of nitrous ether, of which mixture thirty drops may be given every hour, until a copious secretion of urine is produced. This evacuation being once excited to a considerable amount, he then keeps up an action, both on the kidneys and bowels, by administering such doses of tartar emetic as may be borne without sickness, every six hours. After continuing this treatment for three weeks, he then recommends the tonic remedies, such as steel, the aloetic and stomachic bitters, &c. If vertigo or syncope should occur during the use of digitalis, Dr. Hamilton states that it is effectually relieved by the use of the warm bath."—*Gooch's Compendium of Midwifery.*

ART. III. *Observations on the Modus Operandi of Calomel.* By a Correspondent.

The following letter to the junior Editor was not intended for publication, but the views it offers of the modus operandi of a medicine so much in use, appear to us so rational, that we take the liberty of offering them to the public. Correct philosophy has an indirect, indeed, but a powerful bearing upon judicious practice; and cannot, either in medicine or in other sciences, be too highly appreciated.

Dear Sir,—I ought to apologise for not sooner fulfilling my promise to write to you on the subject of *Calomel*. My attention has been so occupied by other matters, that I had nearly forgotten my promise—though to you it cannot make much difference, as I before stated to you, since I possess but a very limited knowledge of the subject. As you wished to know, however, in what light I regarded calomel, I offer the following as a summary of the views which I entertain upon the subject.

Calomel, as a *purgative*, commences its operation high up, acting forcibly on the stomach and duodenum.

It promotes and modifies the secretion of the liver and pancreas, as well as those of the mucous membrane of the intestinal tube throughout.

It appears in some instances, to be capable of abating irritation, and of overcoming mordid action in the alimentary canal, independently of the evacuation of vitiated matters, and in a manner analogous to that of direct sedatives; as, for example, in dysentery, in diarrhœa, and cholera: at least in certain cases of these diseases. (Ainsley, Johnson, Cartwright, &c.)

When given in large doses, besides its primary action on the bowels, it produces its specific effects on the general system, called the mercurial impression: and this, whatever may be its nature, seems more especially to affect the capillary vessels, and the receiving and absorbing systems. By exciting the ac-

tion of these parts, it has a tendency to equalize the general circulation—restore secretions, overcome local congestion, inflammation, &c. This mercurial impression, carried to a greater extent, causes ptyalism, which, besides being the surest evidence that a mercurial action is set up in the system, is of itself, probably a salutary local disease.

The natural tendency of the mercurial action is to prostrate, and to derange, more or less, the constitution; but when it is opposed to a formidable disease, besides overcoming a greater evil than itself, it seems probable, that its own injurious tendency may be in a measure neutralized by the disease which it overcomes. Still, a decided mercurial action should not be resorted to on slight occasions, as if it were always a harmless expedient. I subscribe to Dr. Armstrong's opinion, that it is safest in diseases of febrile action, or of congestion, and when there is no great prostration; and that it is apt to do injury in cases of debility, of low action, and in constitutions naturally feeble or unsound; as its tendency in such cases is to prostrate the system, or to awaken some latent disease, and impair the general health.

Does mercury enter the circulation; or does its constitutional effect depend on sympathy alone? I believe it is absorbed into the circulation, but shall not trouble you with my reasons for this belief.

Again, how does mercury overcome disease? Is Boerhaave, Cullen, or John Hunter, right in his hypothesis? The last is very plausible, and so is Mr. Teale (of Leeds). He believes that mercury pervades the circulation, where it operates as a stimulant, not so much, however, on the central, as it does on the extreme vessels, which it excites into brisk action. If they are overloaded with blood from congestion or inflammation, their caliber is diminished, and their healthy condition restored. In short, he holds that it operates on the same principles as external stimuli do upon an inflamed part, except that the mercury makes its impression, ab interno. In this way he explains the beneficial effects of mercury in membranous inflammation, and in restoring a due circulation in parts where it is deficient.

It has also been discovered, that the blood undergoes a

change, during the action of mercury—that it is rendered less coasistent—and that the proportion of crassamentum is lessened, and that the albumen of the blood and of the secretions is changed, in some measure, to a serous character, (Bostock, Goss and Travers). These are important discoveries, and may throw much light on this obscure subject—and it justifies the belief, that we are, as yet, very imperfectly acquainted with the modus operandi of mercury in curing diseases.

In estimating the share of credit due to mercurial action, especially in fevers, we should be careful not to award to it the glory of a victory, when it has only been *permitted* to take possession of the field, because the enemy had chosen to retire. Nor should the novice in medicine be unapprized of the possibility of his placing to the account of the disease, derangements which are caused solely by the mercury, with which he is plying his patient. I might make further trite remarks on calomel and mercury, but the above exhibits a general outline of my views upon the subject.

ART. IV. *Case of Complete Division of the Tendo Achillis by the blow of an Axe.* Communicated by JOHN L. RICHMOND, M. D. of Cincinnati.

On the 22d of September, 1829, Isaac Allen, about 19 years of age, received the full blow of a heavy sharp chopping axe directly across the tendo Achilles: the force of the blow was such as to divide every thing posterior to the bones, and marking the tibia considerably, to pass obliquely downwards about one-fourth through the malleolus of the Fibula.

He was taken up, carried to the house, and laid on a straw bed, *very prudently*, with his foot considerably elevated, and wrapped up in several thicknesses of cloth. On unwrapping the ankle, the blood flowed, *pulsatim* from two arteries.

My first object, of course, was to secure the arteries; which was attended with no difficulty, and requires no detail. The next object was to dress the wound in such a manner as to secure adhesion by the first intention, and to secure, if possible, an adhesion of the tendon. For this purpose two stitches were applied to assist the adhesive straps in supporting the external parts. A patch of adhesive plaster was then spread of sufficient size and of a proper shape to cover the whole belly of the gastrocnemii muscles, leaving the lower end of my cloth for about two inches uncovered with plaster, then applying a slipper to the foot, with a very stiff sole, extending about an inch back of the heel, I flexed the knee, and extended the foot as much as was practicable without constraint—then passing a lacing string four times back and forward from the hind end of the slipper to the lower end of the plaster cloth, I drew them as nearly together as was necessary to bring the two ends of the divided tendon in perfect contact. The string was then fastened, and to conclude the whole, an elastic corset was bound to the instep, to prevent any flexion of the foot. In this situation it remained until the proper time for removing the sutures, at which time, no part of the dressings were removed except what was necessary to enable me to remove the sutures. The dressings were then reapplied and caused to remain until time for the ligatures to come off from the arteries, when they were removed, and the dressing reapplied and continued about four days longer. They were then carefully removed, the foot rubbed, but not suffered to be flexed, nor the knee extended; dressings were again applied as before, and continued uninterrupted for two weeks longer. The incision adhered, perfectly, by the first intention, and to my great satisfaction, on removing the dressing, I found that the tendon had *perfectly* adhered. Owing, however, to the long confinement, which had been between three and four weeks, he was unable, at first, to flex the foot or extend the knee. This difficulty, however, subsided by degrees, the adhesion of the tendon remained perfect, and in a few weeks he acquired as perfect a use of the foot as he ever had, and now at the end of three years, he experiences no kind of incon-

venience from having received the cut. He is a great fellow for hopping, and as that was the foot which he formerly used for that purpose, he continues to use it, and that without the least impediment. This is the most perfect cure which I have ever witnessed of entire division of that tendon.

What I consider of the greatest importance in this case, and the principal reason why I report it, is the application of the adhesive plaster to the calf of the leg, by which means the muscles were so perfectly drawn down as to produce the most natural coaptation of the ends of the divided tendon, and that without obstructing the venous circulation. At the same by the firm and equable support of the belly of the muscle, the tendency to twitching and spasmodic contraction, which is a very great obstacle to the preservation of the divided extremities of the tendon in juxta position, was effectually obviated.

I have witnessed the application of the dressing connected with a garter or fillet, *around the leg;* but I have never seen it succeed, without producing an enlargement of the tendon at the point of separation, nor have I ever seen another case in which there was not some impediment in the motions of the foot and a weakness of the ancle; but in this case there is neither. In the application of the fillet, there is also some inconvenience arising from the obstruction of the venous circulation, which, by the application of the adhesive plaster is entirely avoided. It is necessary, however, to observe, that it should be so applied as to include the whole belly of the gastrochnemii muscles, and to compress them smartly, in order to bring down the muscles sufficiently to bring the ends of the separated tendon in perfect contact.

It should, moreover, never be forgotten, that the other part of the incision having adhered by the first intention, is no proof that the tendon has adhered also; this would be impossible. If a tendon adheres in three weeks by the first intention, its progress is comparatively as favorable, as a union of cellular substance and muscle in three or four days; no trial, therefore, should be made short of three weeks, for fear of losing what is already gained.

September 4, 1832.

ART. V. *Case of Pregnancy and Labor attended with Convulsions, and complicated with many anomalous symptoms, terminating fatally;* Reported by JOHN L. RICHMOND, M. D. of Cincinnati.

Being called on the 7th of February, 1831, to visit a Mrs. C. I found her laboring under the most exquisite pain in the head I ever saw any person, perhaps, in my life. The pain was intermittent, and between the paroxysms, which continued only from one to two minutes, she was comparatively easy. The intermissions were, perhaps, twice as long as the paroxysms.

It was about the 7th month of the third pregnancy; she was about 24 years of age, had a good constitution, and, generally speaking, had enjoyed good health. During her previous pregnancies she had suffered but very little inconvenience, and had had easy labors. Finding her pulse hard and wiry, I extracted, from the arm about twenty ounces of blood, which was attended with a very favorable effect. Finding that the bowels were rather constipated, I ordered an active cathartic, to be assisted by enema, and directed the pediluvium and sinapisms to the feet.

On returning in the evening, I found my patient much better; gave her an anodyne and directed the sinapisms renewed. The next morning she was much revived and was comparatively easy. I directed the bowels to be kept soluble with laxatives, and advised a spare diet, hoping she would entirely recover. She continued comparatively well until the twenty-sixth, when she was taken in the same manner again, only not as severely. I extracted blood again, but with less effect than before; the bowels were now regular, and as there was no indication of the necessity of purgatives, I resorted to the use of opium, which produced a favorable effect, though it was necessary to use large doses. At this time she manifested some appearance of premature labor, but in the course of twenty-four hours became

easy. She was accustomed to an active life, though not under the necessity of laboring. I advised an easy life and a light diet, with particular directions to keep the bowels in a natural state. I saw her several times in the course of a week, during which time she complained of some heaviness in the abdomen, and some pain in the loins; but she attended to the concerns of her family, and rode out several times a short distance.

On the 7th of March, her husband called on me in great haste, and informed me that she was suddenly, and violently taken in labor, and that he feared I would be too late. I hastened to her chamber, and found her, apparently, in the most severe labor pain, and really expected to find the child escaping from the last passages; but on putting my hand into the bed, was surprised to find that not the least effect had been produced, and that the os uteri remained undilated and undilatable.

I administered a free anodyne, and repeated it in an hour, which again procured ease. From this time, however, she continued in a continual state of uneasiness, and enjoyed no entire repose. She was continually harassed with extraordinary motions of the fœtus, which seemed, sometimes, to perform entire revolutions. She complained of frequent pains in the head and loins; indeed, she was seldom clear of one or the other; and it was remarkable, that when it was in the head, there was no appearance of labor-pains, and this alternate affection continued throughout. Thus she continued until the 29th of March, when she was again taken with all the appearances of violent labor. The pulse being rather hard, and finding the os uteri undilated, I detracted about 12 ounces of blood, and after waiting for several hours, and finding that the labor did not progress to any advantage, I administered an anodyne of sufficient strength to procure comparative rest during the night.

During the 30th and 31st, she continued in a very uncomfortable situation, sometimes laboring under severe pain in the head, at other times, experiencing considerable labor-pains; during which time a moderative purgative was administered,

the pediluvium, and sinapisms. On the first of April she was more comfortable than she had been for several weeks. I saw her in the afternoon, and she was quite cheerful.

About nine in the evening, her husband called on me in the greatest haste, and informed me that she was in convulsions. I hurried to the house with all possible speed, and found her in a state of profound coma, from which, in a few minutes, she passed into a distressing fit of epilepsy, which continued for a space of two or three minutes, and then subsided, leaving her comatous again. The pulse being full and hard, I immediately opened a vein in the arm, and bled her freely, after which she had but one fit: and feeble irregular labor-pains ensued.

Drs. Staughton and Lawrence were immediately called in consultation. The warm bath was resorted to, with cool applications to the head, after which she became relaxed and feeble; the bowels were freely moved by cathartics and enemata.

After the convulsions there appeared no evidences of life in the child; the labor-pains increased gradually during the night, though the patient manifested but very little sense of any thing. Dr. Staughton continued with me until near morning, when it was concluded, that if the labor could be increased, there was reason to believe that it might relieve the head, and the os uteri being now somewhat dilated, it was agreed to give her a dose of Ergot, which was accordingly done. This produced the desired effect to a certain extent, as it increased the labor for a time, during which the head was obviously relieved, but the effect was not sufficient to expel the fœtus, nor even to overcome, to any extent, the rigidity of the os uteri; and, as soon as the effect ceased, the head became much affected, and the patient more insensible again.

On the morning of the 2d, as it was impossible to apply the forceps to the head, or to introduce the hand, and there had been no motion of the child for several hours, and it appearing almost certain that the child was dead, it was agreed that the head of the child should be perforated, and the crotchet applied. This was effected with but little difficulty, but when the extracting force was applied, the child being yet in utero, it was

found difficult to gain much ground, the os uteri, however, became sufficiently dilated, after considerable of an effort, to admit of the introduction of the hand; and as during the time that the extractive force was applied, the head seemed considerably relieved, it was hoped that, if delivery could be effected, it would afford permanent relief. I therefore introduced my hand, turned the child, and delivered by the feet.

During the introduction of the hand, which was attended with but little difficulty, the uterus assumed considerable of a contractile power, and during the act of turning and delivering the patient manifested considerable sensibility, the uterus performed a number of very natural throes, and we became much encouraged. The placenta became entirely detached from the uterus, and was readily expelled, with very little assistance, and for a space of time every countenance was brightened with the hopes that were inspired by the more favorable appearances of our afflicted patient. But, these hopes were transient, for our patient soon sunk, again, into a state of insensibility, and our expectations appeared to be but badly grounded. We then applied a large blister to the region of the abdomen, and continued the cold applications to the head and the warm ones to the feet, which had been used for a number of hours. When the blister began to act, our hopes were again revived for a season. Some after pains took place, and the head appeared to be much relieved, but all this was to no purpose. As soon as the blister was done drawing, every thing returned again to its most gloomy form. Our patient from this time became more insensible, sank slowly, but surely, and about eleven o'clock at night expired. Various other means were employed to prevent her from sinking, but all to no effect. What cause could be rendered for the uncommon phenomena of this case? Wherein was the error, and what the deficiency of practice.

If I should meet with another case of the same kind, I should administer opium in full narcotic doses, previous to the spasms or epileptic fits; after that I know of no alteration which I could propose.

ART. VI. *Notices of the Epidemic Constitution, of the Summer of* 1832, *at Cincinnati.* By DANIEL DRAKE, M. D.

In the last number of this Journal, I gave some account of the Influenza and Measles which prevailed at Cincinnati, in the winter and spring of the present year. I propose now, at the end of August, to record a notice of the gastro-intestinal irritations, which have constituted the prevalent maladies of the summer. In any other than the present cholera times, such a history might, perhaps, as well not be written; but when the Epidemic is hourly expected, some account of those maladies which would seem to be its precursors, cannot be entirely useless.

The summer just ended, has been remarkable for nothing. It has, in fact, been temperate in all respects—in heat, in rain, in clouds, in wind, and in vegetable productions. The last have been neither more nor less abundant than usual, and in their properties have presented nothing indicative of the least peculiarity in the season. Yet, under this mean term in every quality, the past summer has been uncommonly productive of intestinal affections. These, as usual, began to show themselves about the end of the month of May, and have not yet entirely disappeared. Prevailing to the exclusion of almost every other form of disease, they have constituted a kind of reigning epidemic, and blending themselves with each other, in all their varieties have presented, in fact, but one malady; or at least have evinced themselves the offspring of a common cause. Some patients had vomiting only; others that symptom, with diarrhœa; a much greater number diarrhœa alone; a few real dysentery, and a number, diarrhœa with dysenteric complications; all of which varieties occurred simultaneously, though vomiting, on the whole, was more frequent in June, and dysentery in August.

Within the circle of my own practice, the cholera infantum was not quite as frequent and fatal as usual. Fewer cases

than heretofore, were complicated with croup, or terminated in hydrocephalus. Indeed, I saw no instance of the former, and but one of the latter, throughout the whole season. As a general fact, it may be stated, that the warmer the summer, the greater is the prevalence and mortality of cholera infantum, and as the present was not one of our hottest summers, so it was by no means remarkable, for the number and severity of its cases of cholera infantum; nor was the cholera morbus of adults more prevalent or fatal than usual; while the number of dysenteric cases was far less, than I have often known them before. Diarrhœa, however, has been out of all measure, more prevalent than usual, especially among adults. It was not confined to any single class (if such can be said to exist in this country) of the community, but affected the rich and poor, idlers and laborers, the cleanly and the dirty, the old and the young of adult years, nearly in an equal degree. For many weeks this malady, (the *cholerine* of Paris, where, as in other places, it preceded Epidemic Cholera), attracted general attention, and must, I think, have affected nine-tenths of our adult population. Such a prevalence of diarrhœa was certainly never before known in Cincinnati; and suggested to all who knew the history of the dreaded Epidemic, that it was certainly impending. At present, however, this supposed precursor of pestilence has nearly disappeared, and with it the appehension of a more serious visitation.

The following observations on the pathological character of this epidemic constitution, are, perhaps, worth recording.

1. In many cases the individual felt scarcely any indisposition, except a diarrhœa. The morbid action appeared limited to the intestinal canal, and was so mild, that he would eat and drink, and go abroad as usual.

2d. In a great number of cases, more or less fever was awakened, and this, in general, assumed an inflammatory character.

3. Abdominal pain was a common symptom.

4. In almost every case the secretion of bile was nearly or quite suspended. I have not, in any preceding summer, wit-

nessed such an absence of that fluid in the dejections. They were generally thin, light colored, and serous—frequently described by the patient as white. Even when violent vomiting occurred, the matters thrown up, were rarely tinctured with bile.

5. The diarrhœa would cease for several days, and then return, and thus continue to afflict the patient for weeks.

Of the treatment of this epidemic, I shall say but little.

1. Bloodletting and abdominal cupping, were of great service. I saw many cases, which were so decidedly inflammatory, as to call for copious venesection, the omission of which in others, was, I believe, frequently the cause of a protracted disease.

2. Purging was attended with excellent effects. When the intestinal irritation was inflammatory, an oleo-saccharum with mucilage, was soothing and beneficial. In other cases, unattended with inflammatory diathesis, pills, composed of equal parts of calomel, aloes, extract of scammony and compound extract of colocynth, given daily, were productive of the most beneficial results.

3. A pill of calomel and opium, or of those medicines in conjunction with ipecac, administered at night, generally gave great relief, and contributed to the cure. An increase of hepatic and cutaneous secretion, was a common consequence of this practice; and in proportion as these secretions were restored, the intestinal were diminished, and the diarrhœa abated.

4. When the diarrhœa was profuse without fever, the cretaceous mixture with narcotics, was followed by excellent effects; especially, if calomel or the blue pill, was exhibited at night with opium.

5. In all cases, a reduced and demulcent diet was indispensable. Violations in this respect, were often followed by relapses. In some instances, the first attack was, apparently, the consequence of excessive indulgence; in other cases, this cause did not appear to be operative. The prevailing opinion of the physicians and people of the city, was, that fruit and culinary vegetables, would induce the disease; and, in consequence of

this sentiment, these articles were used more sparingly this summer than usual. Still, intestinal irritations were general; and hence, I am disposed to believe, that the influence of a vegetable diet in the production of these maladies, is greatly overrated. How, indeed, can succulent and mild acido-saccharine productions, excite inflammation in a surface perpetually accustomed to powerful stimulation by animal food and spices? We must, I think, either believe, that vegetables are not the morbific cause they are supposed to be, or else that the mucous membrane in the diarrhœa lately prevalent, was not inflamed.

So great was the resemblance of this diarrhœa to that which has every where preceded, or constituted the first stage of malignant cholera, that from the moment the physicians of Cincinnati heard of the latter, in the valley of the St. Lawrence, as I have already said, they constantly expected to see it here. Hence every violent case of cholera morbus was contemplated with suspicion, and became a source of popular alarm. The number of such cases was not, I think, as great, or at least, greater, than in common years; but they appeared to be marked by some deviations from their usual character, which gave them an affinity to the pestilential epidemic. Some of these fell under my own observation, and others were communicated to me by my medical friends. It may be well to record a notice of a few of them.

About the 8th of June, I had a female patient affected with obstinate vomiting of glairy matter, great epigastric pain and sinking, extreme reduction of temperature, and repeated cramps and spasms of the muscles of locomotion. She recovered, but had she resided in Montreal instead of Cincinnati, her case would have been reported as one of Epidemic Cholera.

Near the same time, a gentleman was attacked without any known cause, with pain *in epigastrio*, and diarrhœa, attended with considerable fever. The immediate loss of a pint of blood, and the use of a pill of calomel and opium, arrested the disease; but on the same night he awoke with *cramp* in one of his legs, an affection which had never before attacked him in his sleep;

and which forcibly turned my mind to the affinity between his malady and the epidemic.

In both of these cases there was defective secretion of bile, which I found it difficult to remove.

For the following facts and cases, I am indebted to my friend Dr. Henry.

"*Cincinnati, July* 9, 1832.

"*Dear Sir*,—I saw several cases of *cholera morbus* during the latter part of the month of May, in one of which, the spasmodic tendency was strongly manifested.

Early in June, I was called to a brick-maker, who had been exposed to the heat of the sun, and of the fire, in burning bricks, and whose habits were somewhat irregular. He had vomiting and purging of a watery description, and violent cramps of the legs and hands.

On the 25th of the same month, I was sent for in great haste, to see a gentleman by the name of Murell, who resided in Clermont county, 33 miles from this city, but who had come to it through a hot and oppressive sun, on the preceding Saturday. He was near 60 years of age, but of temperate habits. On Sunday night before bed time, he had, in rapid succession, several copious watery discharges from the bowels. About 11 o'clock, vomiting commenced, accompanied with violent and painful cramps of the stomach and bowels, and of the muscles of the extremities. He vomited but once after I saw him; but he supposed that he had discharged in all, by vomiting and by stool, at least two gallons of a fluid resembling *muddy water*, which was altogether destitute of odour, or bilious tinge. There was a total want of *urinary secretion*, and this continued until convalescence was well established. His extremities were cold, and the surface generally was bathed in a profuse clammy perspiration; his pulse was small and indistinct, and his tongue was soft, flabby, and covered with a yellow fur. I did not *feel* it so as to ascertain its temperature. He was an intelligent man, and he declared, that although he had frequently had *cholera morbus*, he had never suffered in the same way he did this time.

On the 7th of July, I saw a woman on Front street, and a man on the corner of Front street and Western Row, both of whom had this form of disease. The first had vomiting and purging, great coldness, pain and cramp in the stomach, and in the legs and hands—which were preceded by *numbness* of the extremities, which continued until she was relieved by medicine. The second had abundant watery discharges, violent cramps in the stomach and in the extremities, great coldness of the face, and more especially of the extremities, and copious colliquative sweats. His fingers and toes had the shrivelled and sodden appearance so characteristic of the disease.

On Saturday, July 8th, I was asked to visit a negro man beyond the canal. His name was Reuben Smith, 35 years of age, but of broken down health; having labored under chronic diarrhœa since Aug. last. On the preceding Saturday he had worked unusually hard. He had drunk freely of spruce beer on Friday, and on Saturday he had indulged in copious draughts of iced water. In the afternoon it rained, and the temperature of the air was much reduced. During the night, he had several copious watery discharges: but as he slept alone, and was moreover compelled to go down stairs, the precise character of them could not be ascertained. The next morning about seven o'clock, *vomiting supervened*—but this symptom never attracted much attention, as he vomited only twice, and then discharged merely the food he had eaten the day before, intermixed with a glairy fluid.

I saw him about 10 o'clock, A. M. in company with Dr. Lawrence.

The following are the most prominent symptoms. The circulation in the extremities almost extinct, the pulse at the wrist being so weak, that it could not be distinctly felt: it was somewhat accelerated. His breathing was laborious, and his inspirations short, and seemingly arrested suddenly at a certain stage. His *breath was cold*, and his voice had a low moan, exceedingly unpleasant and distressing; his tongue was soft and parboiled; *it was cold;* so was the whole external surface, and when you touched the extremities, you had the impression of a reduction

of temperature, pervading the subcutaneous tissues generally. The whole surface was bathed in a profuse clammy perspiration, and the skin on the fingers and hands, and toes and feet had a sodden, corrugated appearance. His countenance was one of great distress and anxiety, but there did not appear to me to be any thing peculiar in it. He had cramps of the stomach, and abdominal muscles, and of all of the muscles of the upper and lower extremities. I noticed them more especially in the muscles of the fingers, and in the flexor muscles of the thighs. These were aggravated by exertion of any kind. The spasms declined a short time before his death, though his face was convulsed when in the last agonies. He *had no discharge of urine for the last* 12 *hours* of his existence, nor was there any fulness of the bladder. *There was a complete suppression* of the secretion. He had one discharge from the bowels just before I saw him: it was thin, glairy, and white, with *flocculi* of the same color floating in it. He had another about half an hour after I saw him, of the same character; they were destitute of odour or of feculent matter, or of the most remote bilious tinge. The discharge seemed to take place *suddenly*, as if by a spasmodic contraction of the rectum, throwing out its contents, and thus removing all irritation for the time. There was something to my mind very astonishing in his intolerance of external warmth, notwithstanding the deathlike coldness which seemed to be curdling the blood around his heart. He was throughout very thirsty, and very restless; his mind seemed altogether unimpaired. Just before his death, the lips and fingers and toes became *blue*. The blood as it flowed from the vein was dark, thick, tenacious, semicoagulated and running slowly down the arm, from which it fell *guttatim*. He died in about six hours from the time I first saw him, and as nearly as could be ascertained, about 18 hours from the time at which he first complained.

Dissection—17 hours after death.

External aspect—somewhat emaciated.

Abdomen—Omentum. No organic change—veins injected. Stomach and bowels full—mucous coat of the stomach in a state of high inflammation, all around the two orifices, and on the

intermediate space along the smaller curvature. Near each orifice there were spots of a sphacelated appearance, of the size of two inches square. The mucous coat in every part, tender, and easily separated from the muscular coat. The stomach was full of the liquids he had drunk, colored by the morbid secretions and by the medicine he had taken. The spleen was in a natural state. The mesenteric glands were greatly enlarged—soft—inflamed, and suppurating in the centre. The mesentery highly injected. The mucous coat of the duodenum, jejunum, and ileum, thicker, tenderer, and more rugous than in health—greatly inflamed in the ileum, and easily abraded—spots of sphacelus, and many patches of a *papillary eruption* of a *white color*, and having minute *black points* in the apex or central part. The colon contained many of these same patches, surmounted with little black drops or points. Throughout the whole course of the primæ viæ, there was found an abundant mucous secretion, of a dark or muddy appearance.

The liver was pale, firm, and almost scirrhous in some parts: it was but little enlarged. The gall bladder was distended with bile, of the usual thick consistence and high color.

The urinary bladder was absolutely empty—the sides lying in perfect contact.

Thorax. The lungs free from adhesions or any chronic affection—but little congested, if indeed at all so. The cavæ, and right auricle and ventricle greatly distended with a dark grumous blood—semi-coagulated—and almost destitute of serosity. The left auricle and ventricle so small as to create the impression that they were in a state of hypertrophy, or the others of atrophy.

Respectfully your friend, J. F. Henry, M. D."

For an account of the following case, which occurred in the practice of Dr. Wilie, of this city, I am likewise indebted to Dr. Henry, the consulting physician in the case.

"Mr. Charles Blain, Plumb street, between Front and Columbia, a spare, thin man, had been in delicate health for several

years, and for the three weeks preceding, had labored under diarrhœa. He had been exposed as a fireman, the three nights preceding his illness; and as his habits are represented and believed to have been strictly temperate, this exposure was, perhaps, the only exciting cause of his attack. On Friday morning about one o'clock, (July 27th, 1832), he felt a cramp in his feet, legs, and thighs: it was not very annoying, but increased toward day, and advanced to the central parts of the body, the upper extremities becoming simultaneously affected. About nine o'clock, A. M. the spasms became exceedingly severe, at which time he vomited twice, ejecting a thin, glairy fluid, with his food intermixed. His purging consisted of a *thin, frothy, whitish fluid, resembling soap suds.* The accounts I was able to obtain, are not very precise as to the number of the alvine discharges. His brother thinks he had four or five from 9 A. M. until 4 P. M. He himself told me that he had very frequent discharges, but that he supposed they were produced by the medicine. I was called to see him by Dr. Wilie, between 5 and 6 o'clock, P. M. He was then violently affected with cramps of the legs, arms, and muscles of the trunk. His pulse was feeble, beating about 80 strokes in the minute. The temperature of the skin was reduced, though not greatly, below the healthy standard. His veins were flaccid, and when emptied by pressure, it was some time before they regained their half distended size. There was a corrugation of the integuments of his hands and feet. I never saw the Hippocratic face more distinctly marked: the skin seemed drawn tightly over the projecting bones, without muscle or cellular substance interposed. His eyes were retracted; the tunica conjunctiva having underneath it *bloody effusions*—not the *suffusion* which supervenes on *sleep* or *narcotism*, but *blotches* of considerable size, and a *florid* color. He was not decidedly under the influence of opium. I found him awake, and I left him so. He answered my questions promptly, and seemed to understand every thing about him.

Upon enquiry of Dr. Wilie, I found that he had been called to see Mr. Blain between 10 and 11 o'clock, and that he had

given him immediately, between 8 and 10 grs. of opium and 40 or 50 grs. of calomel. I am sure the patient was not injured by the opium: I am convinced, that a less quantity of some form of stimulating narcotic would not have been sufficient to control the spasms and carry him through the *cold stage*, or stage of collapse. In addition to the opium, laudanum and æther had been given, and horse-radish *poultices* applied to the upper and lower extremities.

I saw the patient again at 8 o'clock; he was then cold and clammy. I advised hot sand, in bags, to be placed around him; and urged the repetition of internal stimulants, and the application of sinapisms. The *sand* more especially, was wonderfully efficacious in restoring the heat of the surface, and of the extremities.

I shall not dwell on this case. There was no discharge of urine until late on Sunday evening, three days after the attack, when the symptoms of immediate danger had subsided.

Several medical gentlemen who saw him on Sunday, or on Saturday, concluded that he labored under congestion of the brain from opium. But this, in my opinion, was the result of the reaction, or the consecutive fever somewhat augmented by the remedies that were *necessary* to prevent his dieing in the *cold stage*.

I saw Mr. Blain almost two weeks after the attack; he was slowly recovering, and is now I believe quite well."

Aug. 20 1832."

The epidemic constitution of which I have given some account, has not been limited to Cinninnati. By gentlemen who have travelled in Kentucky, I learn that it has been extensively prevalent in that State. The same thing is true of Ohio.

The following extract of a letter from Dr. Marble, of Newark, dated August 25, will show its prevalence in that part of the State.

"The diseases of the season have been peculiarly characterized by intestinal irritation. The summer has not been sickly,

and neither cholera morbus nor diarrhœa, can be strictly said to have been epidemic; but they have been prominent among the prevailing diseases, as compared with the generality of seasons, when not epidemic.

Cholera morbus was, perhaps, most prevalent during the second and third weeks of July. Within that period I met with several cases in which there were slight cramps: one, the case of a plethoric intemperate man, in which there was much spasmodic affection of the extremities, particularly the calves of the legs and muscles of the abdomen. More recently, I was called to a case in which there was a similar affection of the muscles of the back, which came on immediately after the vomiting and purging, and the pain in the stomach and bowels had been measurably relieved. The patient jirked suddenly and violently, as if springing bodily from the bed, and complained much of numbness of the upper extremities. He had been eating freely of apples and green corn. I took blood from both of these patients—from the latter, largely. Both recovered, as have all others I have seen, by the usual treatment. The disease in this region commonly appears in a mild form.

The diarrhœa of the season has generally been attended with griping in the bowels—frequently with nausea, and has commonly compelled the subjects of it to the use of medical means, and the observance of a strict regimen. In most cases I have been able to trace the exciting cause to the use of the vegetables and fruits of the season, which, as has been very observable, have exerted an unwonted power this summer in producing diseases of this description.

In treating some of the first cases of diarrhœa, I made a free use of siedlitz powders, occupying the interim with anodyne and diaphoretic compositions; but the practice did not do well. I have since advised a single cathartic dose of calomel, following it up for several days with rheubarb and soda, eight or ten grains of each, two or three times a day, conjoined sometimes with a bitter and aromatic tincture. Now and then I have given a large cathartic dose of the rheubarb and soda to begin with,

omitting the calomel; and in a few cases, I have had occasion to repeat the calomel. This course has always succeeded.

The intermittent and remittent fevers which have occurred this season, have in many, perhaps, in a majority of instances, made their incursion in the form of a cholera morbus, with severe vomiting and purging. This has commonly, but not always, ceased with the access of the hot stage of the first paroxysm. These cases have generally yielded in a few days, to effectual purging, without the administration of quinine or other tonics. The onset of febrile diseases so generally in this form, is, as far as I know, or can learn, quite a new thing here.

We have not had any dysentery yet—at least, I have not seen a marked case of it, but have seen some cases of neglected diarrhœa tending to that disease.

Very respectfully your ob't. serv't,

D. Marble."

Newark lies about 150 miles east of Cincinnati. I shall transcribe from the letter of an intelligent correspondent, at Steubenville, nearly 100 miles further east, the evidence, that the same atmospheric distemperature has lately prevailed at that place.

"You express a wish to know," says Dr. A. Judkins, "if we have had much *cholera morbus*, or dysentery. In reply, I may inform you, that we have had much more of the former disease this season than is usual, and perhaps, I might say, *less* of the latter.

Complaints of the stomach and bowels have been general; a large majority of these cases did not assume the symptoms of cholera morbus: persons would complain of want of appetite, occasional nausea, frequent pains in the bowels, accompanied generally, though not uniformly with diarrhœa. There was a time, embracing the greater part of June and July, in which I should say, more than one-half the population suffered more or less from some disorder of the stomach or bowels, or both. A want of biliary secretion characterized every case, so far as I know, *whatever might be the amount of indisposition*,

from the most inconsiderable gastric derangement, to the most aggravated case of cholera morbus.

Cholera morbus has been more rife this season than I ever knew it in any other. And it must be confessed, that in some cases, to say the least, it has assumed rather a new aspect. In addition to the usual symptoms of that disease, there was *coldness of the skin—perspiration and spasm*, to an extent not hitherto observed. A total absence of bile in most cases, and in two cases in my practice, a total absence of urine for twenty-four hours—and this without enlargement of the bladder—evidencing a suspended secretion.

I think we have had satisfactory evidence of the operation, to a limited degree, of the same cause, which has operated with much fatality in some of the towns and cities to the north and east of us."

Steubenville, Sept. 3, 1832."

Was the epidemic constitution of the present summer in the West, any thing else than the usual distemperature? I have already stated its characteristics. They certainly differ from those of our ordinary endemic to such a degree, as at least, to constitute it a variety. They assimilate it to, if they do not render it identical with *cholerine*, or the malady which precedes and accompanies Epidemic Cholera. But had this epidemic distemperature a different *cause*, from that which annually reproduces our *endemic* distemperature? If so, what was it? And what *is* the cause of our endemic constitution? Did the former supersede the latter? Or were they capable of combining? If, in reality, but *one* cause exists for both, what agent so far modified it, this summer, as to produce a modified disease? It certainly was not any peculiarity in the sensible meteoration of the atmosphere; for as I have set forth in the beginning of this paper, the summer exhibited no atmospheric peculiarities. I am far from being satisfied with any of the causes usually assigned for our endemic cholera morbus, cholera infantum, and diarrhœa. The theory of intense heat seems plausible, but still intense heat may only develope the real cause; insensible meteoration is but an assumption; and malaria a mere hypothesis.

Cincinnati, Aug. 31, 1832.

Reviews and Bibliographical Notices.

ART. VII. *A Practical Compendium of Widwifery, being the course of Lectures on Midwifery and on the Diseases of Women and Infants, delivered at St. Bartholomew's Hospital, by the late* ROBERT GOOCH, M. D. Prepared for publication by George Skinner. Philadelphia: Carey and Hart—pp. 120, octavo—1832.

In the last number, we gave an account of a work on some of the Diseases of Women, by Dr. Gooch. The treatise now under consideration was taken from notes of Dr. G's Lectures, and published after his death. It of course wants the finish of the author's hand, and the interest which none but an author himself can give to his conceptions. As it abounds, however, in valuable and original suggestions, it will be found a useful book of reference, and we shall therefore proceed to give some account of the most interesting parts of it to our readers.

LECTURE I. *On the Natural Functions, and on the Diseases of the Female Organs of Generative—Chlorosis.* The indications of cure laid down, are, 1. To improve the condition of the digestive organs; 2. To palliate symptoms; 3. To excite the sexual organs by local stimulants.

The general principles upon which the two first indications are to be conducted do not differ from those laid down by authors. Some remarks upon the use of digitalis will be found on a preceding page. The third indication to be fulfilled by specific remedies he holds in reserve, if the general remedies fail in restoring the discharge—madder, black hellebore, electricity, and marriage. This principle we consider of very great

practical importance, not in the use of emmenagogues, but of all medicines from which either a *specific* or an *alterative* effect is expected. It is generally acted upon by the profession where an inflammatory condition prevails, but all are not so fully aware of its importance when the system is in an opposite state.

Amenorrhœa, the author remarks, may generally be traced to mental emotion, or to the effects of cold. Of the influence of mental emotion he gives the following curious exemplification.

"I was prescribing for a French lady laboring under a suppression of the menses, and on questioning her, found that she had not menstruated since the Cossacks entered Paris; and it was a well authenticated circumstance, that at the time the allied armies entered Paris, from a similar mental emotion, a great number of French ladies were thus affected. The French Journals of the day contained long lists of patients laboring under this disease. The effect of cold on the uterus during menstruation, or about the time of its occurrence, is a matter of familiar experience; and it is to this influence that the suppression of the menses is, perhaps, the most frequently to be imputed."

The most frequent cause, however, is exposure to cold during or about the time of menstruation. The symptoms, when the disease arises from this cause, may be inflammatory or otherwise. When a phlogistic state of the system prevails, the principles of treatment are obvious; in the opposite condition the following plan of treatment possesses some degree of novelty, and is worthy of a trial.

"But supposing a suppression of this kind occurs in one of the other class of females; here we shall obtain more benefit from that which is termed the antispasmodic, than from the antiphlogistic plan; but in this case it is proper to purge, and that smartly. Put the patient into the warm hip bath, administer diluent drinks, and give antispasmodics, such as five grains of ipecac. comp. and three grains of camphor, every four hours, until all the symptoms subside. The injection of antispasmodic remedies, such as laudanum, or asafœtida, into the rectum, will sometimes act like a charm,—in the latter I have great faith; let two drachms of asafœtida be rubbed down with the yolk of an egg, and mixed with six ounces of warm water; this mixture should be gradually injected up the rectum, which being done, a napkin should be closely applied to the part, and every means made

use of in order to restore its retention. If you use laudanum, let the vehicle be small in quantity; an injection of this kind may consist of fifty or sixty drops of laudanum in three ounces of water. It is a great error to suppose that the benefit is to be in proportion to the quantity of fluid injected; this may be true to some extent of purging injections, but the quantity of those of the anodyne description should be small, both because the active ingredient is less diluted, and the injection is the more likely to be retained. The spasmodic affection having yielded, and the nervous irritation being allayed, menstruation generally ensues. But it may so happen, that when the state of spasm has ceased in one variety of the disease, and that of inflammation in the other, the menstrual discharge may still not supervene. Its recurrence may then be expected at the next period; but if it should be suspended month after month, and year after year, this state is distinguished as that of obstructed menstruation."

Dysmenorrhœa is a much more frequent disease than most physicians imagine. It is in the majority of cases accompanied with the general appearance of good health, and therefore attracts less attention from the friends of the patient than its influence upon her happiness requires. Dr. G. thinks it is the principal cause of sterility among young married women. He assigns three causes of the disease; 1. The first and most common is a feeble, nervous, and irritable constitution; 2. Plethora, characterized by a red face and full strong pulse; 3. A disordered condition of the digestive organs or disease of the abdominal viscera.

"In the treatment of this disease there are principally two indications; the first, to alleviate the pain during the menstrual period: and the second, to employ between the intervals of menstruation such remedies as will prevent its recurrence. The first intention is easily accomplished; but the second, if at all, with great difficulty. If the uterus is tender on pressure, with a hot skin, rapid pulse, &c., the existence of an inflammatory state of the uterus is denoted. In this case the hip bath must be used, abstinence from animal food and fermented liquors must be directed, together with a vegetable diet, diluents and purgative medicines; and blood must be abstracted, if the inflammatory state is such as to require it. By these means the pain will be diminished, and the uterus will be disposed to a more healthy action.

In females of a weak, nervous constitution, gentle laxatives, together with anodynes, may be given with advantage on the first occurrence of the symptoms: the use of the hip bath may also be extremely beneficial.

In order to prevent the recurrence of dysmenorrhœa, if the abdominal viscera are disordered, you must endeavor, by a treatment upon general principles, to restore them to a healthy state. If plethora be the cause, you must reduce the quantity of the circulating fluid by a vegetable diet, saline laxatives, and by the abstraction of blood about once a month. If there is debility, you must strengthen the system by the metallic tonics, as by steel, and sulphuric acid combined with the sulphate of zinc; by pure air and gentle exercise;—these are the principle indications of treatment."

As the cure is to be conducted upon general principles, camphor, the volatile tincture of guiacum, and other medicines of this class are to be given only when the system is torpid and inactive.

In all these affections spinal irritation will be found to exist in a greater or less extent. They are diseases of function, not of structure, and the appearances of plethora or debility which may be present, are to be considered as accidental accompaniments, demanding attention, but not presenting indications of radical cure.

Menorrhagia is divided by the author into acute and chronic; to which he adds a form of the disease depending upon spasm and irritation. That which depends upon plethora is accompanied by permanent pain, sense of weight, tenderness in the region of the uterus, a hot skin, and a hard febrile pulse; the spasmodic form of the disease is attended with periodical pains resembling the throes of labor; and a quick, contracted, and irritable pulse. It is difficult to make an accurate distinction between these two forms of the disease, probably they are not to be separated in practice. The treatment is to be modified according as one form or the other predominates. If it be inflammatory, by rest, recumbent posture, saline laxatives, bleeding, nitre, digitalis, ipecacuan. in nauseating doses—if attended by irritation, by ipecacuanha in nauseating doses, and antispasmodics, opium or asafœtida, injected into the rectum. There is a close connexion between the pain and the discharge, and if you relieve the former the latter will soon cease.

The chronic form is to be treated by a nutritive diet, gentle

laxatives, tonic medicines, acids, bark, steel, and aromatics, but the remedy which Dr. G. especially recommends, is, injections of cold water.

"In using this remedy, I would advise you to act with caution when the weather is very cold. At first take the chill off the water, and by degrees use it cold; but do not use it in the inflammatory or acute form of the complaint, or in that of the spasmodic and irritable kind, for in these it will be productive of mischief. If you use it in the description of cases to which I have alluded, I do not know so good a remedy; but do not suppose it will cure others which are not of the same nature. * * * In administering an enemata, it must not be propelled with great violence, for the gut does not like to be thus assaulted, and will immediately reject it. Our object is that the injection should be retained; therefore it must be given when the patient is in bed. It must be pressed up gradually and gently, at first every night, and then every night and morning. The patient must remain on a sofa during the day, as the recumbent position is the most favorable. If it should be necessary to continue this remedy a long time, we must suspend the employment of it for a few days at the accustomed return of the menstrual period, and afterwards resume it. The benefit obtained from it is sometimes immediate; but if the case should prove tedious, the disease will nevertheless, in general, be ultimately cured by it."

In many cases of menorrhagia we have found aloetic purgatives a very valuable remedy, and if there be no idiosyncrasy to prevent their use, we invariably prescribe them.

This disease, whether it be a simple increase of the menstrual discharge, or a real hæmorrhage, is a disease of function, and consequently, like other affections of the uterus, produces symptoms which cannot be accounted for upon any general principles, whether of inflammation, irritation, or debility. It should also be at all times borne in mind, that what is supposed to be menorrhagia, may sometimes depend upon polypus, abortion, or cancer uteri.

Leucorrhœa sometimes proceeds from the vagina, more rarely from the uterus. In this, as in other affections of the uterus, the digestive organs and the general health very frequently, perhaps generally, sympathise. It has been very strenuously disputed whether the local affection stands in the relation of

cause or effect. To us it appears evident from the nature of the general symptoms, that they are dependent upon the local affection as their cause, and indeed in a majority of cases the priority of the local affection and their evident dependence upon local irritation, decide this question.

The treatment is naturally dissected to three prominent indications; to improve the general health; to regulate the digestive organs; to suppress the discharge. This last may be attempted either by remedies exerting a specific operation upon the urinary organs, or by astringents. Upon the use of the latter the author makes the following remarks.

"Half a drachm of the sulphate of zinc, dissolved in six ounces of rose water, forms a good injection, some of which may be thrown up the vagina with a syringe twice or three times a day. But it is to be remembered that the best lotion will lose its effects in a week; have then half a dozen; and when one fails, use another for a week, until you have tried them all, and then employ them again. The treatment of leucorrhœa is to a great extent empirical. Cold astringents among the rational practitioners, are in the most general use; but tepid ones are often equally beneficial. Practitioners have exhausted all the cold astringent remedies, and then having recourse to tepid ones, the patient has been cured immediately. The liquor plumbi subacet. dilut. is now used at the Middlesex Hospital, tepid, and with general success. The strength of this application is to be gradually increased until it is doubled. It is in this complaint as in ophthalmia, that you cannot tell *a priori* whether cold or tepid applications will be the most successful; if therefore one fails, the other should be tried."

Procidentia Uteri occurs generally, though not invariably, from imprudent conduct after parturition. No disease is more frequently overlooked and is productive in consequence of more distress than this.

"Many cases of imperfect procidentia have been mistaken for those merely of constitutional derangement. The stomach is sympathetically affected by the state of the uterus, and nervous affections and debility ensue, which have been treated with tonics, &c.; but when procidentia has been ascertained, if the uterus is properly managed, the constitution will take care of itself, and these symptoms will speedily disappear. How are we to discover the existence of this complaint? When the uterus protrudes externally between the labia, the patient herself will tell you that she has a falling down of the womb.

If it is an imperfect procidentia, we suspect it from the pain which the patient experiences at the sides of the sacrum, from a sense of painful dragging in the region of the uterus, and of fulness and pressure in the vagina as if something was about to come away. If the patient assumes the horizontal position, these symptoms subside altogether, or are gradually relieved. The uterus presses both behind and before, occasioning a difficulty in passing both urine and fæces. These are the local symptoms. The constitutional symptoms are a disordered state of the stomach and of the whole system, accompanied with a train of nervous sensations."

One remark only of the author we deem it important to mention, and this from experience we know to be highly valuable, which is, whether using a pessary or not, to keep a sponge frequently wet with some astringent solution constantly applied. A roll of muslin of sufficient size to support the uterus, and properly secured by a T bandage, will frequently do more to relieve the disease in two or three days, than the use of astringent washes for a month.

Chronic Inflammation of the Uterus.

"Acute inflammation of the uterus, unconnected with pregnancy, is a rare disease: but its occurrence soon after delivery is frequent. Chronic inflammation of this organ, in the unimpregnated state, is very common. The patient complains of a fixed pain in the region of the uterus, aggravated by motion. Pressure above the pubes occasions pain. Pain is felt also at the extremities of the round ligaments. Pain is experienced on touching the cervix uteri, in an examination per vaginam. With these symptoms there is loss of appetite and a disordered state of the alimentary canal. Chronic inflammation of the uterus frequently succeeds abortion; for women do not attach the same importance to this as to labor at the full period of pregnancy, but get up in two or three days and walk about. In ten or fourteen days after this exertion, they sometimes begin to experience the above symptoms. This complaint is also sometimes owing to the insufficient clothing of our English females; and sometimes to a disordered function of the digestive organs. But it is often difficult to trace the disease to its cause: for it is allowed to exist week after week, and a month or two may, perhaps, elapse before we are consulted.

I have no doubt that dysmenorrhœa is frequently owing to chronic inflammation of the uterus. The aching pain in the region of the uterus then continues from one menstrual period to another, and is aggravated during the discharge. From this view of its pathology, the treatment just recommended for chronic inflammation of the uterus would be equally proper in the form of dysmenorrhœa."

Lecture II. *On Pregnancy.* We pass over the author's remarks on *Conception; The Gravid Uterus; The Signs of Pregnancy*, and come to the *Diseases of Pregnancy.* During pregnancy, the head, chest, stomach, liver, bowels, in fact, every organ are liable to derangements. *The affections of the head* are headach, throbbing, giddiness, &c. These symptoms may depend either upon an inflammatory condition of the system, or upon derangement of the digestive organs. We decide upon the former, by the general indications of the plethora, a florid countenance, full habit, and strong pulse. It is relieved by bleeding, purging, and spare diet. When these affections are severe, they should be carefully watched, as they sometimes terminate in puerperal convulsions. When these symptoms depend upon visceral derangement, they are relieved by active purgatives of such a character, as at once to evacuate the bowels, and give a healthy character to their secretions.

Pregnant women frequently suffer from nervous irritation, with palpitations of the heart, dyspnœa. These affections are frequently relieved by bloodletting and other antiphlogistic means, but they more often depend upon indigestion and acidity, by which they are always aggravated, whatever may be their cause. After the more important indications are attended to, antispasmodics may sometimes relieve the irritation.

The irritability of the stomach in pregnant women is sometimes very troublesome. When it resists the usual mode of treatment, the following plan may be worth trying:

"If the irritability of the stomach is very obstinate and distressing, give no nourishment at all at this time for twelve hours; if the mouth is dry, moisten it with a little cold water, afterwards allow a small quantity of food, perhaps some weak chicken broth; prohibit the taking of food again during the next six hours, and direct the patient to drink once at about the middle of this period. Many cases which have resisted all other means, have been much relieved by this treatment. Dr. Vaughan speaks of the powerful influence of opium and starvation, when properly regulated. A lady had taken various remedies without benefit, and it was thought the vomiting was now kept up by habit. It was, therefore, proposed that she should abstain from all food four and twenty hours, at which time her appetite returned, the vomiting ceased, and she recovered. Opium is not requisite in all

cases of irritable stomach; but in those of unusual obstinacy, it may be given with advantage. Keep the stomach empty ten or twelve, and let the patient take half a grain of opium every six, hours. In some cases of this description there is a hot skin, a rapid circulation, with pain and tenderness about the præcordia; these symptoms require blood-letting, as from the arm to the amount of eight ounces, or by the application of a dozen leeches to the pit of the stomach. The abstraction of blood greatly relieves this sub-inflammatory or plethoric state of the stomach: mild saline aperients are also to be directed, together with the recumbent position. In sea-sickness it is a common experience, that persons who are immediately sick on sitting or standing upright, are perfectly free from this distressing affection, so long as the recumbent posture is strictly preserved."

Pain in the hypochondrium, generally in the right, is sometimes very troublesome. It is slight in the morning, becoming more severe in the course of the afternoon. It probably depends upon the condition of the liver, as it is best relieved by those purgatives which make a decided impression upon the secretions of this organ, such as calomel, and the comp. extract of colocynth—blue pill and aloes.

The motion of the child is sometimes so troublesome as to deprive the patient of sleep. It is generally relieved by small bleedings, gentle aperients, and opiates—although they often fail.

We shall take the liberty of quoting the author's remarks upon the œdema and varicose veins, which occur during pregnancy.

"*Œdema* of the lower extremities is likely to occur without any hydropic affection in any other part of the body, at the latter period of pregnancy. It is first remarked towards night about the ankles, by degrees the swelling rises higher, and the legs become of a very large size. The gravid uterus, by its pressure, both obstructs the return of venous blood from the lower extremities, and also compresses the absorbents. The patient goes to bed with her legs swollen; towards morning her face swells, and the swelling of the extremities disappears, but returns as the day advances. Sometimes the œdema is but trifling; at other times it extends not only throughout the lower extremities, but the labia pudendi are enlarged to nearly the size of the head of the child. When labor comes on, the external parts being in this state, the accoucheur, mistaking this swelling for the child's head, may suppose so much of the labor to be over. When first in practice I made this mistake. I was called to a labor; the pains were severe: on examination I found a large tumor between the patient's

thighs; and supposing it to be the head of the child, I requested the nurse to get every thing ready. Pain succeeded pain, but there was no advance of the shoulders. I then began to examine more minutely, and found the tumor to consist of an immense enlargement of one of the labia. Had I been more attentive at first, I should have discovered, as I did afterwards, that the skin on the outer side of the tumor was continuous with that of the upper part of the thigh, while the opposite side of the tumor only conducted the finger into the vagina. The labia may be thus enlarged without offering any considerable impediment to the delivery. In general no treatment is required; but if before labor comes on the swelling occasions much pain, I would let out the effused serum by a puncture with a lancet. A lady had both labia greatly swollen and very painful; she refused to have them punctured unless I made use of my eyes, and the tumor which presented itself absolutely astonished me. In half an hour after an opening had been made into the labia, the bed was drenched with serum, and the patient was perfectly easy. I have heard of these punctures exciting inflammation and producing gangrenous ulcers difficult to heal, as scarifications in anasarcous legs sometimes do; but I have never met with an instance of the kind myself, and am rather sceptical in respect to its having occurred.

Varicose veins of the lower extremities are very common during pregnancy. This state of the veins arises from the pressure of the enlarged uterus on their trunks, by which the return of blood to the heart is impeded. The remedies for this state of the veins are pressure, cold applications, and the recumbent posture. Pressure should be employed according to Mr. Baynton's method. First strap the leg with adhesive plaster, then apply over this a roller bandage with a moderate degree of tightness, and keep this bandage wet with common or with Goulard water. Practitioners are generally cautious in the employment of pressure, lest in consequence of a compression of the superficial veins of the legs, congestion should occur elsewhere. To prevent this you must, in conjunction with pressure, take away a few ounces of blood, and direct an abstemious diet, at the same time keeping the bowels relaxed by aperients."

Dr. G. devotes a considerable chapter to retroversio uteri, but as this subject has been very ably treated by our countryman, Dr. Dewees, whose works are in the hands of every American practitioner, we deem it unnecessary to refer to it.

Abortion, when it does not arise from accident, but depends upon some constitutional cause, is likely to occur in two opposite conditions of the system, in the plethoric, and in the feeble, nervous, and delicate. Whenever it is threatened, the woman should be separated from the husband, and the general health be very strictly attended to. Dr. G. says, that women subject to dysmenorrhœa generally miscarry. We think it probable

that the nervous symptoms which so generally attend on women liable to abortion, proceed, almost always, from some derangement of the uterine function. In guarding against future failures, the condition of this organ should be very minutely inquired into. Women are naturally solicitous about this discharge, when it is entirely suspended, but they frequently permit such deviations from its healthy character, as to produce very considerable distress, and ill health to pass unnoticed. We have frequently seen patients subjected to severe courses of medical treatment for disease of the heart, liver complaint, dyspepsia, &c. when the whole disease originated in some change in the quantity or quality of the menstrual discharge which the patient had never thought it worth while to mention, nor the physician to inquire into. If dysmenorrhœa, profuse or scanty menstruation, fluor albus, and procidentia uteri, were made the subject of closer attention, I am confident that we should hear much less of habitual abortion.

Lecture III. *Of Difficult Labor.* The author divides difficult labor into, 1. Impeded labor; 2. Unnatural presentations; 3. Complicated Labor.

Among the causes of impeded labor, Dr. G. mentions irregular action of the uterus. The pains appear to be active, and the os uteri dilatable, but still the child does not advance. These are called spurious pains, and are generally recommended to be allayed by opium, but Dr. G. asserts that he has rarely given opium with benefit, as it will seldom quiet the pains sufficiently to permit the patient to sleep. Nothing is so valuable as patience, and every resource is to be put in requisition to keep up the spirits of the patient.

The following language respecting ergot will sound strange to the American practitioner. It is due, however, to the author to state, that it is some years since these lectures were delivered. The editor has not the same apology to offer.

"The Americans recommend the ergot of rye, in doses of half a drachm or two scruples, and affirm that the uterus was almost immediately excited by it to a vigorous action. I never used it neither do I credit what has been said respecting its efficacy."

To which the editor appends the following note.

"I have had many opportunities of putting this remedy *fairly* to the test, by administering it in cases, the tediousness of which I had been led to anticipate, by my attendance on the same woman in former labors, which were exceedingly protracted from a sluggish and ineffectual action of the uterus. I have repeatedly given the ergot in half drachm, and two scruple doses; I have given it both in powder and in infusion; and I never witnessed in any one instance the slightest benefit from it."

Dr. G. speaks of a peculiar condition of the os uteri as a cause of tedious labor—instead of being preternaturally hard, it is soft, flabby, and œdematous. This condition is generally produced by the too early rupture of the membranes, in consequence of which the uterus is compressed between the head of the child and the pubes, the circulation is obstructed, and œdema follows. He recommends pressing up the uteri during the pain, and sustaining it in that position during the interval,

"In the thick, spongy, and œdematous state of the os uteri, this plan answers very well; I have found it succeed in many cases, and there is no occasion for bleeding. Do not suppose that every slowly dilating os uteri is to be thus treated; the delay may be for the reason, that the uterus is acting in a wrong direction, when this method is of no use; or the os uteri may be rigid, dry, hot and painful, when any attempt on your part to dilate it would do mischief; it is only in the thick, spongy, œdematous state of the os uteri that this kind of artificial dilatation can be of service. Pare your nails close, that you may not scratch the os uteri, and do not press it upwards, and against the symphysis pubis, by which you may irritate or injure the urethra, but rather on one side of the course of the urethra. The os uteri is sometimes thus slipped over the head with the greatest facility, and I have been surprised at the advantage I have gained by it; but if this cannot be accomplished in ten or a dozen pains, you will not succeed at all, and you had better not persevere in the attempt."

The author is very full in his remarks upon the consequences of protracted labor, and in his directions for the use of instruments. The following curious history respecting the invention of the forceps is worth relating:

"The first account we have of the forceps was in the year 1743; and these instruments were supposed to be the same as those which

Chamberlain had employed, the truth of which conjecture was not confirmed until within the last four or five years. The history which I received from Mr. Carwardine, of Essex, runs thus;—Woodham Mortimer Hall, in Essex, is an old manor house, and was once the residence of old Chamberlain, since whose time it has been occupied by several individuals. About four years since, Mr. Kemble, in exploring an old closet in this house, discovered a trap-door, which being opened, was found to lead into another closet, in which were boxes containing letters, rings, jewels, trinkets, among other things, old Chamberlain's will, and a ring with the hair of Mrs. Chamberlain, which appeared to have been placed there by her daughter, with the following written memorandum:—"This lock of hair was taken from my dear mother after her death." There were also two bags of instruments, consisting of different specimens of the forceps and vectis: there was a petition also to the House of Commons, lamenting the number of deaths occasioned by ignorant midwives, and stating that himself and sons possessed a knowledge of means by which women may be delivered without injury to either the mother or child; and hinting slyly, that if the House of Commons would grant him a sum of money, he would, at their command, disclose the secret. Old Chamberlain was buried in the church yard near by; and on his tomb stone is engraved "that he was born in 1601, and died in 1692, and had been physician to three kings; Charles the First, Charles the Second, and James the Second; that he was baptised when he was 48 years of age, after which he kept the Sabbath." These circumstances leave no doubt that the instruments found in the closet were those which Chamberlain employed, which were similar to the forceps and vectis now in use, and of the application of which I have next to speak."

The author disapproves very much of the use of the crotchet, and recommends a substitute.

"It is a diabolical instrument: even in the hands of the best practitioner it is a dangerous one. I never myself met with any accident in the use of it, not because it did not sometimes slip, but because I chose rather to lacerate my hand than my patient's vagina. I shall never use it again; but instead of it, an instrument somewhat resembling lithotomy forceps, rather larger and longer, with teeth at the extremity of each blade, by which the hold is rendered very firm. You pass it closed up the vagina, and when it arrives at the opening in the skull, the handles are separated; one blade is introduced within the opening, the other is on the outside, and closing the handles you grasp a portion of the skull. The extraction is to be made carefully, at first downwards and backwards; but when the head presses on the perinæum, downwards and forwards, if the bone which is grasped by the forceps gives way, extract it, and grasp another portion. This is an old instrument, the invention of which is claimed by Lamotte."

Dr. G. devotes two pages to the subject of ARTIFICIAL PREMATURE LABOR, and describes two modes of performing the operation; one by evacuating the liquor amnii—the second we shall leave him to describe in his own words, together with his views respecting the advantages and disadvantages of the operation.

"The second method of inducing premature labor is to pass the hand completely into the vagina, and introducing your fore-finger gradually through the os uteri, peel off the membranes all round the cervical portion of the uterus; after which it is found that the expulsive action of the uterus will generally come on in about forty-eight hours. The advantage of this method is that you have the unruptured membranes to dilate the os uteri, and the liquor amnii to defend the head of the child. If premature labor does not come on in two or three days from the separation of the membranes from the neck of the uterus, you must have recourse to the first-mentioned operation of puncturing them.

Foreigners are exceedingly afraid of this operation; and certain it is that great disturbance of the nervous system is produced by it; severe rigors, rapid pulse and delirium are the occasional consequences, but these symptoms, proceeding from nervous irritation, do not continue long enough to produce any serious consequences: they sometimes cease as soon as the pains commence; and if not then, they cease after the uterus is emptied. About nineteen children have been thus prematurely born, and afterwards reared in this country. This practice, therefore, gives a chance of preserving the life both of the mother and child."

Of the author's remarks upon preternatural presentations, we shall only notice those upon *presentation of the arm.* When this presentation is ascertained, the operation of turning is to be performed as soon as it can be resorted to without risk. When the os uteri is somewhat dilated and dilatable, the pains are to be suppressed by venesection, if the circumstances of the patient will at all admit of it, or at all events, with a full opiate—70 or 80 drops of laudanum. When the uterine effort has subsided, the hand is to be introduced—the right or left, according to the position of the child—in such a manner as that the palm of the hand will correspond to the abdomen of the child, that the feet may be more readily grasped and brought down. The position of the child will be determined by that of its hand.

"The rule, then, for the employment of either hand in the operation of turning, is this:—If the palm of the child's hand is towards the abdomen of the mother, you are to pass up your right hand into the anterior part of the uterus; if the back of the child's hand is towards the belly of the mother, you are to pass up your left hand into the posterior part of the uterus. In every turning case you are to introduce your hand by the side of the presenting part; as the feet are brought down this goes up. If both feet cannot be readily grasped and brought down together, bring down one first, and then the other; and in the progress of extraction, remember to attend to the direction of the axis of the pelvis. Dr. Thynne was called to a case in which the attending practitioner could not turn. The failure arose from his having attempted the operation only with his right hand, when the back of the child's hand was towards the mother's belly. Dr. Thynne introduced his left hand, and turned the child with facility."

The following quotation gives, probably, the true explanation of the manner in which the arm presentation generally takes place, and also of the phenomenon which Dr. Denman has called the *spontaneous evolution of the fœtus.*

"Sometimes when the hand or shoulder presents, the head rests on the edge of the brim of the pelvis; and if you return the presenting part, the uterus is so stimulated to vigorous action, by the introduction of the hand, that the head is thrown off the brim of the pelvis, and descends as in a natural presentation. I have succeeded in this way in many cases, and in some to which I was called for the express purpose of turning; while apparently only making a common examination, I have returned the presenting part, and then waited for a pain, which has brought down the head. I have then desired the attending practitioner to examine, and he has been surprised to find that the arm was converted into a head presentation. On one occasion when the arm presented I pushed it up, and down came the funis, which I carefully replaced; the uterus immediately contracting forced down the head, which of course continued to be the presenting part until it was expelled. In arm presentations when the body of the child is completely across the pelvis, you must turn and deliver; but if the head is only a little removed from its natural position, then return the hand, in the hope that the head at the next pain, will assume its place. Two queries here suggest themselves: the first, If when the head is but little removed from its natural position, the labor were allowed to proceed without interference, would not the position of the child become transverse relatively to the pelvis, as the arm was forced lower into the vagina? The second, if an arm presentation were detected in a very early stage of the labor, would it not be found that the head was always a little removed from its customary position?

It has been asserted by some writers when the arm at first presents that this recedes, and the breech takes its place; this is called a spontaneous evolution. Dr. Denman stated that the breech is made to descend, and at the same time the arm goes up, by the continued action of the uterus. In proof of this fact, he published several cases, together with the inference that arm presentations may be entirely left to nature; this conclusion was, however, invalidated by his subsequent experience. Dr. Douglass denies this change of position altogether; he observes, that when the arm and shoulder were pushed under the arch of the pubes, additional space is gained at the back part of the pelvis, the breech is forced down, distends the perinæum, and the child is born double. This I consider the most correct explanation."

Of complicated labor, one of the most formidable complications that the practitioner has to contend with, is that of *puerperal convulsions.* Dr. G. remarks that there are two classes peculiarly liable to this affection—the plethoric and the irritable. Depressing passions of the mind are very liable to produce it—and hence in lying-in hospitals, a very great proportion of the cases are among unmarried women. Bleeding is the sheet anchor of the practitioner in the estimation of the author, without regard to the peculiarities of the constitution in which it occurs. Neither does he appear to attach the importance to the delivery of the patient that most practitioners do; although he appears to be inclined to recommend, after a sufficient degree of depletion, provided the os uteri is sufficiently relaxed to permit it to be done without violence.

The practice of Dr. Dewees appears to be sanctioned both by experience and sound judgment, namely, to look upon delivery as an important object, always to be kept in view, but not to be attempted until the oppression of the brain, and the rigidity of the os uteri is overcome by venesection. A sufficient degree of bloodletting to relieve the brain will render the os uteri sufficiently dilatable to make turning practicable and easy; but before this, the attempt will only increase the irritation which it is the object of delivery to get rid of.

LECTURE IV. *On the general Management of Women after Delivery.* Of the articles alluded to in this chapter, we shall

only notice his remarks on milk abscess. The following rule of practice appears to us highly reasonable.

"The treatment, to some extent, resembles that of phlegmonous inflammation in any other part: it consists in the application of leeches, in purging, and a low, cooling diet; in addition to which, it is of the highest importance to keep the lactiferous tubes empty. These minute vessels are, I think, spasmodically affected; be this as it may, the breasts are most effectually disposed to permit the escape of the milk by hot fomentations, which are to be applied, for half an hour at a time, by means of flannels wrung out of hot water, and renewed every five minutes, while the escape of the steam is prevented by placing over them a wooden bowl of sufficient size, or some such contrivance. After the fomentation, immediately apply the child to the breast, or get it drawn by a woman, when it will be emptied readily, and the patient will be considerably relieved. The fomentations and drawing of the breast should afterwards be so frequently repeated as to prevent an unpleasant degree of distention; in the intervals, cover the breasts with a warm poultice, which I am informed diminishes the secretion of milk. Under a steady perseverence in this plan, the excitement of the constitution is quieted, the hard tumor gradually diminishes and disappears. Some practitioners recommend cold applications, but they are extremely predjudicial, if only by rendering the abstraction of milk more difficult, to say nothing of the well known fact, that the disease is frequently produced by cold."

Dr. G. thinks that although by opening the abscess, when suppuration has taken place, we relieve the present sufferings of the patient, yet we produce a wound more difficult to heal, and therefore he recommends this part of the process to be left to nature, relieving the severity of the pain by opiates given according to the necessity of the case.

This chapter contains a valuable article on phlegmasia dolens. The treatment is not different from that generally recommended. After the inflammatory symptoms subside, he recommends strapping the limb from the toes to the groin with adhesive plaster, a practice which we can recommend with confidence as likely to be followed by the happiest results in reducing the swelling. It has long been asserted that the disease is not confined to puerperal women. Dr. G. has met with an instance occurring after abortion. He thinks there is reason to believe that an unhealthy and irritated state of the uterus, attended with

a fetid discharge, may give rise to it, and recommends the vagina to be well cleansed of the lochial or other fetid discharges, by the use of a syringe and warm water. He has seen the disease from the application of a ligature to a polypus uteri, which was followed by a highly offensive discharge.

"I have sometimes met with a disease very much resembling phlegmasia dolens: with the exception, however, that the limb does not swell; there is considerable pain shooting from the groin down the thigh, which is attended with fever. The constitutional treatment of this affection will consist in the exhibition of purgatives, sudorifics, &c.; and I have found a circular blister round the thigh, just above the knee, like a garter, productive of great benefit."

We gave in the preceding number of this Journal, some account of another work by the author, on the diseases of females. That volume having received the finishing hand of the author, and being devoted to a few select subjects to which he had devoted peculiar attention, possessed a fulness and accuracy of detail, and a finish of style and execution which does not belong to the present volume. It is peculiarly valuable for the graphic interest of the style and the great number of interesting and instructive cases with which the author illustrated the character of the disease, and the practice with which he combatted it.

The Compendium of Midwifery labors under the double disadvantage of being a posthumous work, and of being a mere report of Dr. G's Lectures. It will be found, however, a judicious system, will arranged, and full of valuable suggestions.

F.

ART. VIII. *A Treatise on the Venereal Diseases of the Eye.* By WM. LAWRENCE, F. R. S., late Professor of Surgery to the Royal College of Surgeons in London, Surgeon to St. Bartholomew's Hospital, &c., &c. London: 1830. pp. 337.

When we recollect how many tissues enter into the composition of the eye and its appendages, we cannot wonder at the variety of its diseases. It was not till since the middle of the last century, that these maladies were studied in the true spirit of medical philosophy, especially in Great Britain and the United States. Even down to the commencement of the present century, no works of unquestionable merits on the diseases of this organ, had appeared elsewhere than in Germany, France, and Italy. At present, and indeed for the last thirty years, the surgeons of London seem to have regarded these maladies as entitled to attention, and they have consequently been redeemed from the keeping of professed oculists—most of whom were mere pretenders. Among those who have latterly dedicated themselves to this interesting but neglected branch of the healing art, we may enumerate the highly respectable names of Hey, Ware, Saunders, Vetch, Adams, Wardrop Travers, Guthrie, and Lawrence; to the last of whom we are indebted for the work of which we now propose to give some account.

As it is one of the latest, so it is one of the most authoritative books, on the subject of which it treats; for the opportunities of the Author have been ample, while his zeal and talents are known to be of the highest order. According to the title of his treatise, he limits himself to those diseases of the eye which are of venereal origin, dividing them into two species—*Gonorrhœal* and *Syphilitic*, the former chiefly seated in the Conjunctiva, the latter in the Iris.

The existence of gonorrhœal ophthalmia has, sometimes, been questioned; but had any doubts existed with us, they would

have been removed by the collection of cases which Mr. Lawrence has appended to this part of his work. They amount to 24, and seem to us collectively to prove, that the mucous membrane of the eye is susceptible of being acted on by the gonorrhœal virus; or at least, of sympathizing with the mucous lining of the urethra.

Our Author begins by dividing gonorrhœal inflammation of the eye into three forms:—1st. Acute inflammation of the conjunctiva;—2d. Mild inflammation of that membrane;—and 3d. Inflammation of the sclerotic coat, sometimes extending to the iris.

The first variety offers the characters of intense purulent ophthalmia, from a common cause; excessive fulness of the vessels of the conjunctiva, with great redness; a swelling of that membrane throughout its whole extent; the tumefaction of that portion which covers the sclerotic coat frequently becoming so great, as to produce a high degree of chemosis; a feeling, as in common ophthalmia, of dirt or sand in the eye; considerable intolerance of light; and a profuse yellow puriform discharge. The inflammation soon extends to the cornea; the whole globe of the eye, the orbit, and indeed the head, are seized with agonizing pain; the intolerance of light rapidly increases; and inflammatory fever, more or less intense, is awakened.

Now, all these symptoms are frequently met with in conjunctivitis from other causes. How then are we to establish the diagnosis of the gonorrhœal variety? Mr. Lawrence is aware of this difficulty, and admits that the local symptoms are not sufficient for this purpose. We must inquire into the previous or present existence of a gonorrhœa. If the patient had been, and still was, free from that malady, the presumption would be against a venereal taint of the eye. Too much reliance, however, should not be placed on this observation. We have met with one case, at least, which seemed to show, that an individual, after inoculating his own eye with the gonorrhœal virus, may communicate it to others who wash in the same basin, or use the same towel.

In this manner, we once knew a disease which had the

characters of gonorrhœal ophthalmia, communicated by a journeyman shoemaker, to several others who worked and lodged with him. Purulent ophthalmia, when not produced by accidental violence, is well known generally to affect both eyes; but the gonorrhœal disease, Mr. L. thinks, for the most part, attacks one eye only, though it sometimes extends to the second. The former commonly begins in the mucous membrane of the eye-lids, while the latter, in one case, the *commencement* of which our author witnessed, began in that part of the membrane which overspreads the eye-ball. This, however, is but a single observation; and in the midst of so much uncertainty, he is obliged to have recourse to the *degree*, instead of the *kind* of symptoms, a method of distinction, on which little reliance can be placed. In comparing the two affections, in this respect, he has found the gonorrhœal to be more intense, rapid and destructive in its progress, than that from common causes. From this rule we must, however, except those inflammations which are the effect of direct external violence. Thus, we have seen the explosion of a fulminating cracker, near one of the eyes, produce all the symptoms of the most intense and destructive gonorrhœal ophthalmia, including chemosis and total sloughing of the cornea, with ultimate escape of the lens.

In a country, like our own, where purulent ophthalmia is an endemic, many cases closely resembling the gonorrhœal, present themselves, and give the medical adviser no little perplexity. Gonorrhœa, however, is, in the Western states, a much rarer disease, than in Europe, if we may credit Mr. Hunter, who says that most men have one time or other in their lives labored under that malady. An immense majority, therefore, of those who are attacked with purulent conjunctivitis, may be presumed free from gonorrhœal contamination. When others, inhabiting the same locality are affected with the same disease, the presumption will be against a venereal origin. Finally, if the attack occur between the summer and the winter solstice, it will be correct, in the absence of the proofs of a venereal taint, to ascribe the disease to miasmata, or the cause, whatever it may be, of endemic ophthalmia.

The effects of gonorrhœal inflammation of the eye, when it is not promptly subdued, are most disastrous. The immediate læsions are ulceration, or sloughing of the cornea, suppurations in the chambers of the eye, and extensive interstitial deposites. As consequences of these injuries of structure, we have, in different cases, what the people, not inappropriately, call *bursting* of the eye-ball. An opening being made through the cornea, or that membrane, in whole or in part thrown off, the aqueous and sometimes the vitreous humor escapes. The anterior segment or the whole globe collapses. Or in milder cases, the iris protrudes through an aperture, the pupil is obliterated, and the remaining cornea, rendered opake, adheres permanently to the iris; læsions, which of course produce irremediable and permanent blindness. In other cases, accumulations behind the latter membrane, push it forward, against the cornea, which becomes more conical, is changed in its structure, and becomes staphylomatous.

Mr. Lawrence discusses the question, whether an individual laboring under gonorrhœa can infect his own eyes with virus from his urethra. The *onus* of authority seems to incline to the negative; but Mr. Wardrop communicated to our author two cases, which are clearly in the affirmative. First, a young gentleman laboring under gonorrhœa, inadvertently touched his eyes when his fingers were contaminated with the discharge:—the contact was followed by violent puriform ophthalmia, and ended in the suppuration and collapse of the eye-balls. Secondly, a soldier who had gonorrhœa, was advised to bathe his eyes in his own urine, as a remedy for a slight affection of the lids: purulent ophthalmia seized one eye, which suppurated and burst.

The question whether the gonorrhœal discharge from one person can produce ophthalmia in another, is, in the opinion of our Author, decided in the affirmative, by a conclusive, if not ample experience. Such cases, of course, cannot be very numerous; and Mr. L. acknowledges that he has not met with any. Mr. Wardrop has, however, furnished him with two; and as they come from such respectable authority, we shall notice

one of them. An old lady, being in the chamber occupied by her son, who labored under gonorrhœa, wiped her face with a towel which he had contaminated with the discharge from his urethra. Purulent ophthalmia immediately ensued, and, in a few days destroyed one of her eyes. Delpech and Bacot have published other cases, equally in point.

It must be admitted, however, that in most cases of what is called gonorrhœal ophthalmia, the disease cannot be traced up, to the application of the discharge from the urethra. Can purulent ophthalmia, when it occurs in one laboring under gonorrhœa, result from that malady, independent of the deposit of the poison upon the conjunctiva? It must be admitted that a great majority of gonorrhœal patients escape ophthalmia; and still further, that the supervention of the latter upon the former, is not a proof of the relation of cause and effect; for a man affected with gonorrhœa, is obnoxious to all the common causes of ophthalmia. If, however, such supervention occur, without any obvious cause, the presumption certainly is, that the affection of the conjunctiva is produced by that of the urethra. But in what manner, if not by inoculation? We know of none, but sympathy. Our author refers to the extension of rheumatic inflammation from one group of fibrous membranes to another; although there is no continuity of structure. It should be recollected, however, that rheumatism is the offspring of causes that in general act on the whole system, while gonorrhœa is always the effect of a local impression. Still, there are analogies, perhaps, for the supposed sympathy of the mucous membrane of the eye with that of the urethra.

Many writers have asserted, that as the inflammation of the eye arises, that of the urethra ceases; they have, therefore, denominated it metastasis, and advised the reproduction of the latter as a means of curing the former. Such are the opinions and advice of Scarpa, Beer, and Richter; but our author has not witnessed the cessation of gonorrhœa upon the occurrence of conjunctivitis, though it has generally, not always, been mitigated. It is easy to understand, that the primary disease, in some cases, may cease altogether, in others be only mitigated—

on the access of the secondary; for pathology presents us with examples of this kind.

The treatment of gonorrhœal ophthalmia requires great promptness and energy. Procrastination or timidity in practice, is almost inevitably followed by sloughing or ulceration of the cornea, and the total destruction of sight. The proper treatment is, of course, the antiphlogistic. Copious venesection, with subsequent cupping or leeching, is indispensable; and must be repeated at short intervals, till the congestion and pain are removed. Our readers will be surprised, perhaps, to learn, that few diseases, seated even in the great viscera of organic life, require for their cure so great an abstraction of blood; not that the life of the patient, but his vision, is in jeopardy. Mr. Wardrop, informed our Author, that in one case, he had to draw 170 ounces in a few days, the patient, moreover, being a young female. The event was favorable.

We are somewhat surprised, that our Author says little or nothing in favor of nauseants and cathartics, certainly most efficient antiphlogistics, and well calculated, not only to diminish the energy of the circulation in, but to divert from the head. We find it somewhat difficult to subscribe to the propriety of such abstractions of blood, as ten pints and a half from a girl, in a few days; and with much deference to the high authority of Mr. Wardrop, we incline to the opinion, that a liberal use of tartar emetic and opium, would have rendered half that quantity sufficient. There are, certainly, other remedies for inflammation, than the loss of blood, although, beyond a doubt, that is the principal. This fact is recognised by those who advise the administration of calomel, in the malady now under consideration. Our Author thinks lightly of this practice, and fortifies his own experience with that of Beer and Delspech; others, however, have thought it beneficial, and we have certainly, seen violent ophthalmias from other causes, give way to a speedily induced mercurial action. Of the advantage of combining opium with mercury, or antimony, after great depletion, we feel quite assured. The extreme irritability of the general system, consequent upon copious bloodletting, requires

a narcotic, and in most cases, the abatement of this irritability is followed by an abatement of the inflammation.

If the cornea should have already sloughed off, this active antiphlogistic course is useless, and may even be prejudicial if persisted in. A circumscribed ulceration does not, however, contra-indicate the use of antiphlogistics; but, on the contrary, they often contribute to arrest its spread, and thus preserve the vision.

Our author does not ascribe much efficacy to blisters, and they must never be employed till the inflammation begins to abate. They should be applied to the nucha, and kept running by an irritating cerate.

Topical applications are not to be neglected. Mr. L. has employed them chiefly to mitigate the sufferings of the patient, which are often intense. Sometimes cold, at other times warm, lotions have been found the best. A solution of acetate of lead, in rose water or a decoction of poppy heads, has been found beneficial. The sulphate of zinc and other astringents, sometimes do good; especially when the powers of the general system are weak, and the ulceration of the cornea spreads with ragged edges and a whitish or dull yellow color. In these cases a solution of alum is often serviceable.

Mr. Lawrence informs us, that Mr. Melin has employed a strong solution of nitrate of silver, at the commencement of the disease, for the purpose of cutting it short. Mr. Bacot and Dr. Ridgeway, have pursued the same practice, with decided success, both in gonorrhœal and common conjunctival inflammation. They used a solution of ten grains to the ounce of distilled water. Dr. O'Halaran bears ample testimony, to the good effects of the same treatment. In addition to the solution of nitrate of silver, he touched the inside of the everted eyelids with a crystal of the sulphate of copper. We are enabled, from experience, to speak well of this practice in every stage of common purulent ophthalmia; a disease in which we have, indeed, found these medicines, in a concentrated state, and other active applications, of far more service than mild collyria.

Incisions into, or the complete excision of the chemosis, have

been recommended, but our author does not seem disposed to sanction the practice, nor have we, in common conjunctivitis, seen it of much avail.

Dismissing the subject of acute gonorrhœal ophthalmia, we come to our author's second species, mild gonorrhœal inflammation of the conjunctiva; characterized by increased mucous secretions and external redness of a bright scarlet tint, arising from distension of the superficial vessels of the globe. We need not dwell on this variety. When the patient is of a full habit, active measures are necessary; but, in general, we can succeed with astringents, of which the solution of nitrate of silver is most convenient and efficacious.

The last variety of gonorrhœal ophthalmia, is complicated with sclerotic and iritic inflammation. The vessels lying behind the conjunctiva, over the white of the eye, are distended; and the whole of this zone of the sclerotic membrane, assumes a pink or purplish red color. The conjunctiva is but little affected; the flow of tears is copious; the pain and sense of tension in the globe are great; and the impress of a bright light is intolerable. The inflammation extending to the iris, deprives that membrane of its brilliancy, and causes it to assume a dull and deeper hue. The pupil contracts, and lymph is effused and deposited on its margin. The conjunctiva at length becomes loaded with blood, and the cornea suffers in its transparency.

This variety must be treated by the loss of blood, both general and local, and by other antiphlogistic means. Warm fomentations are generally agreeable to the patient. Seclusion from light is absolutely necessary, as long as the patient feels its admission painful. Blisters frequently do good. Colchicum has often been used with advantage. In many of these cases, the sclerotica has indeed a rheumatic disposition. It may seem strange to some of our readers, to find rheumatism, ophthalmia, and gonorrhœa associated. Such nevertheless is the fact. Our Author has met with this combination, and quotes Mr. Brodie for the same fact. We, ourselves, have seen rheumatic pains excited by gonorrhœa; and recollect one case in which

the latter malady produced rheumatism, which, with terrible perseverance, attacked most of the large joints, in succession, and did not entirely leave the patient for years. It is not easy, perhaps, to account for these sympathies of the fibrous structure, either ophthalmic or articular, with the mucous membrane of the urethra. Mr. Lawrence supposes that idiosyncracy is concerned in their production, for he has seen them several times in the same individual; but this is the mere expression of a fact, not its rationale.

To the account of *gonorrhœal* ophthalmia, of which we have given a condensed but faithful view, Mr. L. has appended, as we have already stated, the detailed histories of a great number of cases. Many of them are instructive, and taken together, they serve to exhibit the symptoms, and illustrate the treatment of all the varieties of this malady, but our limits do not admit of a further notice of them; and we shall proceed to an analysis of the second part, devoted to the deeply important subject of *syphilitic* diseases of the eye.

These are divided into two varieties—first, *Syphilitic Iritis;* secondly, *Syphilitic Ulceration of the Eye-lids.* We shall take them up in the order in which they stand.

The cavity which is imperfectly separated into two compartments by the floating iris, is lined with a serous membrane, which exhales and absorbs the aqueous humor of the eye. In iritis this membrane, as well as the iris itself, is inflamed. The legitimate and common product of this inflammation is coagulable lymph. The deposition of this effusion upon the iris, and in its pupillary aperture, changes the color of that part, at first renders its motion sluggish, then terminates them altogether, agglutinates the organ to the cornea or the capsule of the lens, and plugs up the pupil or effects its permanent contraction. Iritis, then is an adhesive inflammation of a serous membrane. This malady is of course attended with distension of the vessels of the sclerotica, imparting redness to the adnata of the eyes, with increased sensibility to light, and a flow of tears.

The change of color which the iris suffers is remarkable. In most cases the tint is dull and muddy. If the iris were red

colored, the hue which it assumes is yellowish or greenish, while a blue eye will sometimes be altered to a bright green. A dark colored iris becomes in most cases reddish. In all cases its natural briliancy is lost, and its beautiful fibrous structure nearly or quite disappears.

The deposition of lymph occurs under various modifications in Iritis. 1st. Into the texture of the iris, when it produces the changes of color just described. 2d. In a thin layer on the surface of that membrane. 3d. In distinct masses from the size of a pin's head to a split pea, on various parts of the iris. 4th. When the inflammatory action is violent, blood itself is sometimes effused, and intermixed with coagulable lymph. 5th. A mass of lymph sometimes fills the pupil, or agglutinates its margin, partially or generally, to the capsule of the lens. 6th. Lymph may be effused in such quantities into the posterior chamber, as to cause a bulging of the sclerotica, or to press the iris forward against the cornea. Cases of this kind, have been called suppuration of the eye-ball; but our Author believes that the inflammation, in Syphilitic Iritis, however violent, is always adhesive, and consequently that suppuration never takes.

We have already said, that the motions of the iris are seriously impaired, by the disease now under consideration. In reference to its diagnosis, this fact must not be forgotten. In most cases this loss of motion finally becomes perfect, with an exceedingly contracted pupil. This aperture, moreover, frequently loses its circular figure, and is often drawn from its formal situation, towards the root of the nose.

The redness of the sclerotica, of which we have spoken, is generally greatest in a zone near the cornea, gradually shaded off behind. This redness is that of the pink, while the hue which the super-incumbent vessels of the conjunctiva presents, is scarlet. When the iritis is intense, the redness is fiery. This flame-colored zone lasts as long as the iritis continues, and ceases with it.

The cornea does not assume the red color of the sclerotica, but becomes hazy, at length nebulous, opake, and sometimes

ulcerated. The aqueous humor appears to preserve its transparency.

In syphilitic iritis, the sufferings of the patient are chiefly at night. After a day of comparative ease, with the approach of evening, or at bed time, the pain, which is usually seated in the brow, becomes intense, so as often to prevent sleep till towards morning. In this characteristic, syphilitic ophthalmia differs in no respect from the endemic ophthalmia of the West, which, as to pain, always suffers a nocturnal exascerbation.

Many cases of Syphilitic Iritis excite but little constitutional disturbance; but when the disease is really acute, it may awaken severe fever, with restlessness, headache, and insomnolency—the pulse being full and tense, the tongue white, the appetite suspended, and the bowels costive.

If not arrested, Syphilitic Iritis may extend itself to the choroid and retina, producing amaurosis, with irremediable blindness; a result which should be recollected, when we are consulted on the subject of artificial pupil. It is, indeed, this extension of inflammation to the posterior tunics of the eye, that is most to be dreaded.

Mr. Lawrence thinks that Syphilitic Iritis, may be distinguished from that occasioned by other causes, by the tubercular depositions of lymph; the reddish brown discoloration of the iris on its inner circle; the nocturnal exascerbations of pain, assimilating it to other syphilitic affections; the angular disfiguration of the pupil, and its displacement towards the root of the nose; together with the previous or concomitant occurrence of syphilitic symptoms. In iritis, from gout, or common causes, the pupil generally retains its normal figure and position.

Iritis is one of the sympathetic or secondary affections in syphilis. We are ignorant of the manner in which it is produced, as we are, of the production of nodes, ulceration of the throat, and cutaneous discolorations. It is among the earliest of the secondary symptoms, and therefore sometimes occurs before the primary chancre is cured.

Our author thinks that Syphilitic Iritis is not often infantile. He has seen but two cases, in which children seemed to have derived it from their parents.

It has sometimes been thought, that the iritis which occurs in syphilis, is caused by the mercury administered for the cure of that disease; but Mr. L. in his extensive experience, has met with no fact which goes to sustain this opinion. Iritis has often occurred in syphilitic patients, treated on the antiphlogistic plan without mercury.

Taken early, Syphilitic Iritis may generally be brought to a favorable termination; and whatever may be the ravages of the disease, as long as they are confined to the iris, the case is not desperate; for extensive deposites of coagulable lymph may be absorbed, and an artificial made to supply the place of the natural opening; but if the eye have become amaurotic, all of course is lost. Mr. L. thinks the case hopeless, when the whole iris presents a change of color, with considerable contraction of the pupil, and an opake substance in it; with intense redness externally; acute and deep seated pain, and total extinction of sight.

The treatment of Syphilitic Iritis, requires, 1st., a resort to antiphlogistics; 2d., the administration of mercury; 3d., the application of belladonna or some other narcotic, capable of dilating the pupil.

When the symptoms are acute, and especially when the inflammation is extending itself to the posterior tunics of the eye, no time should be lost in resorting to an active antiphlogistic treatment. Copious bloodletting, both general and local, to be frequently repeated; active purging; antimonials; abstinence, and an exclusion of light, are indispensable. In milder cases, a treatment less energetic, may suffice. Topical applications are of but little service. Tepid water, a decoction of poppy heads, or, if agreeable to the patient, cold water, will be most soothing. Blisters have not done much good, and add to the excitement if employed too early.

Although antiphlogistic measures are indispensable, in most cases of Syphilitic Iritis, and of themselves frequently effect a cure, still we must not depend solely on them. Mr. Lawrence has frequently seen the morbid action in the capillary vessels, continue after large and repeated bleedings, the effusions of lymph still going on, and alterations of structure progressively

developing themselves. In many cases, then, something more than antiphlogistics is required, and this *desideratum* we have supplied to us in mercury.

Some oculists have proposed to treat the disease entirely with this medicine; but this practice is both unphilosophical and unsuccessful. It can only succeed in mild cases, and, even in these, will be more successful if preceded by evacuants. It should, therefore, rarely be made the first remedy in the order of time; and, quite as rarely, be omitted, as a second. The best mercurial preparation is calomel; and to be successful, it should be administered in large and salivating doses. Our author speaks of two, three or four grains, with one-fourth, one third, or half a grain of opium, every eight, six, or in urgent cases, every four hours. But in this country, this would scarcely be regarded, as an energetic mercurial course; and as the object is to induce a speedy and copious salivation, we see no reason, why a more liberal administration should not be made. It might, certainly, in desperate cases, be exhibited in portions, three times as great. On the establishment of a mercurial action, the remaining iritic inflammation rapidly abates; and in most cases, a salutary absorption of the effused lymph, as speedily occurs; at the same time, the redness of the eye disappears, and the pain ceases. In all this, there is nothing incredible. The disease is syphilitic inflammation of a *serous* surface. Now, it is well known, that mercury exercises great power over serous inflammation from any cause; while it is universally acknowledged to control syphilitic actions beyond any other means; hence, no other malady presents greater aptitudes for this medicine, than that other consideration .In many cases the remedy may be laid aside, as soon as the salivation commences; but our Author has seen others, in which a gentle ptyalism, had to be kept up for several weeks. In mild cases, the blue pill, or the *hydrargyrum cum creta*, will be sufficient.

The third part of the treatment, consists of the means which prevent contraction or closure of the pupil, while the cure of the inflammation is proceeding. Without a resort to these, the pupil would often be obliterated before the inflammation

could be subdued, even by the most energetic treatment. For this purpose, the extract of belladonna, stramonium, or hyoscyamus, may be employed. A scruple should be rubbed down with an ounce of distilled or rain water, and filtered, before it is dropped into the eye. Or the extract, brought to the consistence of honey, may be rubbed on the brow. The ophthalmic surgeons of Germany, have recently employed, for the same purpose, the alkaline principles of belladonna and hyoscyamus, under the names of atropia and hyoscyamine. Dr. Reisinger speaks in high terms of the latter. It dilates the pupil far more extensively than either of the extracts, excites neither pain nor redness, and does not weaken the sight, however long it may be applied. One grain of the hyoscyamine may be dissolved in a drachm of distilled water, and a single drop will generally produce the desired effect. Whatever narcotic we may select, it should be applied sufficiently often, to keep the pupil constantly dilated. When the inflammation is still violent, it is difficult to effect much dilitation; but the medicine does no harm, especially if it be rubbed about the eye, and should not be omitted. In subsequent stages, when adhesions have taken place between the iris and the capsule of the lens, they are sometimes stretched by the action of the narcotic; and have even been ruptured, so as to liberate the organ; an effect which could not readily be produced by any other means.

Such is the ordinary treatment of Syphilitic Iritis; a method founded on sound therapeutic views, and sanctioned by ample experience. It does not, however, succeed in all cases. Certain constitutions do not bear bloodletting; others become irritable under the use of calomel; and others are worn out. In short, cases will arise which require a different treatment. To this end, Dr. Hugh Carmichael has lately recommended the internal use of the oil of turpentine. He rubs it into an emulsion, with yolk of an egg and sweet almonds. Before, or in connexion with this medicine, more or less depletion will be necessary. Mr. Carmichael, in several well marked cases of syphilitic iritis, has seen the pain and redness quickly removed, effused lymph absorbed, and vision restored. Mr. L. has not used it.

We shall state, in concluding this subject, that iritis from other causes, is successfully treated by the same remedies, which cure that from syphilis; a remark which would have been equally applicable to common and gonorrhœal ophthalmia.

The appendix to that part of Mr. Lawrence's book, which we have just analysed, contains the histories of 29 cases. They are full of instructive matter, but we cannot notice them further.

The 6th and last chapter is devoted to syphilitic ulceration of the eye-lids, an affection not formally noticed in the common treatises on syphilis, and ophthalmic diseases. It may exist, either with or without other secondary symptoms. In some cases, Mr. Lawrence has not been able to obtain from the patient an acknowledgement of the previous existence of chancre. Perhaps, in fact, it had not existed. May not the virus sometimes be accidentally applied to the eye-lids, and produce in that part an original chancre?

Our Author has seen the disease exhibit both an acute and chronic character. When acute, the ulcer is phagedenic, with a red margin, sharp edges and foul unequal surface, on which bloody points are seen, the pain is severe, and the eye-lid rapidly destroyed. In the chronic variety, there is swelling and some hardness of the sore, with expansion of the cutaneous texture, instead of loss of substance, and little or no pain.

In some cases the ulcer is seated in the skin, in others it affects the conjunctiva only, in others it commences on the ciliary margin, and descending or ascending, involves all the tissues.

Mr. L. thinks that no other ulceration of the eye-lid, can be mistaken for the syphilitic. From the cancerous, it differs, in not being preceded by a scirrhous tubercle, in forming and advancing more rapidly, in extending most commonly to all the tissues, while cancer affects the cutaneous only, and in being associated with syphilitic symptoms.

The treatment of syphilitic ulceration of the eye-lid is decidedly mercurial. As soon as the system feels the effect of the internal use of mercury, the sore loses its syphilic character, and quickly heals. Before our Author came to rely on

this remedy alone, he tried the antiphlogistic and emollient plans, but found them utterly unavailing. He very justly remarks, that the deformity and inconvenience, resulting from the loss of an eye-lid, are so great, that sarsaparilla and other inferior means should never be trusted, when the preparations of mercury present so certain a resource.

We have thus laid before our readers a plain and ample account of Mr. Lawrence's book, a work which we wish to see republished in this country. We cannot but think, however, that the cases, making considerably more than half the volume, might be omitted, without materially diminishing the value of the book to the mass of the profession. But few American readers would study them, and as they double the price of the work, they could not fail to limit its circulation, an effect which we should sincerely deprecate. D.

ART. IX. *Surgical Memoirs of the Campaigns of Russia, Germany, and France.* By BARON D. J. LARREY, Surgeon-in-Chief of the Hospital of the Royal Guard, Ex-Inspector General of the Military Medical Staff, Ex-Prime Surgeon of the Grand Army, in Russia, Saxony, &c. Translated from the French, by John C. Mercer, of Virginia, Student of Medicine. Philadelphia: Carey & Lea, Chesnut street—1832.

The name and services of Baron Larrey have been long and advantageously known to the Medical Profession through the translation of three volumes of his Surgical Campaigns, by Dr. Hall. Few individuals have had greater opportunities for acquiring a practical knowledge of surgery, or are better qualified to improve those opportunities for advancing the interests of science.

He entered the French army as assistant surgeon in 1787, and in consequence of his great merits he was in a few years

advanced to the rank of surgeon-in-chief of the army. For nearly twenty years he was almost constantly with the principal division of the army, and was present at nearly every great battle.

Bonaparte, who delighted in the exhibition of that vigor and decision of character which elevated himself so much above the rest of mankind, took a peculiar pleasure in having Baron Larrey near himself in all his campaigns. It devolved upon him to superintend every thing connected with the military hospitals, and to direct the arrangements for affording relief to the wounded on the field of battle; and it is no disparagement to the Emperor to say, that the talents which Larrey displayed upon these occasions were not inferior to those of his master. Always actively engaged in the duties of his station, he manifested, in conjunction with the virtues which qualified him for the perilous and trying scenes in which he was called to act, the amiable virtues appropriate to his profession. In every engagement he took upon himself the performance of the most important operations. These frequently amounted to fifty or sixty, and upon one occasion to upwards of two hundred, and he was always in readiness, with an indifference to danger worthy a follower of Napoleon, to transport himself to any part of the field where his presence was called for.

His memoirs are written after the model given by Ambrose Pare, giving an account of every thing he met with in the course of the campaign: natural curiosities, geographical descriptions, improvements in the arts, are arranged together with military movements and surgical operations. Scarcely had the author improved the leisure which the short interval of peace, before Napoleon's unfortunate Russian campaign, afforded him to finish three former volumes of his memoirs, when he was suddenly called upon to renew his labors.

It is not consistent with the design of this work to follow the author through the detail of his campaigns. The desultory manner of the essay renders it difficult to give any thing like an analysis of the surgical adventures, and we shall therefore be compelled to confine ourselves to the account of a few of the important operations and scenes of thrilling interest with which

those remarkable campaigns that immediately preceded the downfall of Napoleon abounded.

While the troops were yet in Poland preparing for more serious operations, the Baron had opportunity of observing some cases of *Plica Polonica* in individuals who had long been languishing in hospitals. In all these patients he discovered traces of inveterate scrofulous or venereal taint, and the head was covered with thick masses of hair, loaded with filth and vermin, suffered to remain for the purpose of producing a salutary crisis to the constitutional disease, and urged in vain upon the attendants to remove the hair, and subject the patients to an alterative treatment based upon the mercurial preparations. "This advice was rejected, and each party adhered to their respective opinion, thus exemplifying the very great difficulty with which prejudice is eradicated."

While the army was yet in Poland, some remarkable wounds were met with—one given in the last number of this Journal,* in the person of a Russian officer, in whom *the whole of the nose, the upper lip*, and the *palatine arch* were separated from the face, and left adherent by two small shreds of the upper lip at the commissures. The parts were replaced and reunited without deformity. A French officer received a musket ball in his bladder, from which it was extracted by the operation of lithotomy; the patient recovering in thirty days. A third wound no less remarkable occurred in a Russian soldier, whose forehead was pierced by an iron ball weighing seven ounces, which lodged in the anterior part of the brain. This patient also recovered. To these wounds allusion will be made hereafter. The following extract gives a striking picture of the destitution of the surgical department of the army after the bloody battle of Smolensk, when the wounds of nearly twenty thousand men were to be dressed without an article of the necessary materials, a destitution that was excelled only by the ingenuity and perseverence which supplied the defect.

"Our situation here was similar to that at Witepsk, in relation to the deficiency of all kinds of materials for dressing the wounded. It be-

* Vol. VI. No. 1, p. 156.

came necessary for me in this, as in many other instances, to discover substitutes for such means as were wanting. Thus, in lieu of linen, which we had exhausted during the preceding days, I employed the paper found in the building which we converted into an hospital, and which contained the archives of the city. Parchment served the purpose of splints and splint cloths, tow, and the down of the birch tree (*betula alba*) were used in the stead of charpee, and paper for covering the patients. But, what difficulties was it not necessary to surmount? what toils did we not endure at this conjuncture? Nearly all the inhabitants of the city had abandoned their houses, and the majority of those, which offered any resources, had been a prey to flames and pillage. I was actively aided in all these labors by the surgeons of the *ambulances* attached to head-quarters, and by those of the guard. We were occupied both during the night and day, in dressing those wounds that were caused by the sword and fire, and notwithstanding the scarcity of means in our possession, every necessary operation was performed in twenty-four hours."

The Baron, during this campaign, amputated the arm at the shoulder joint very frequently, and with great success. The following case is remarkable as an instance of the power of the constitution to resist the consequences of the most severe wounds.

"One of the most remarkable of these injuries, was that sustained by a corporal of the thirteenth regiment of the line. A bullet, of large size, shattered the head of the left humerus, the clavicle, and the whole of the scapula. The bony fragments were thrown posteriorly upon the back, and the soft parts abraded and lacerated. The wound presented a very unfavorable aspect. This soldier, in a state of unsupportable agony, loudly demanded the removal of the remaining portion of his arm, and the numerous osseous splinters, driven into its muscular parts. Notwithstanding the slight hopes inspired by the situation of this unfortunate individual, I attempted the following operation. After having removed the arm, which was attached to the body merely by some shreds of flesh, and tied the axillary artery, I extracted all the osseous fragments detached from the muscles and periosteum. The principal disorganized soft parts were then excised, and the lacerated and unequal edges of this extensive wound approximated, and maintained in this state of contiguity by means of adhesive straps and a large piece of linen, dipped in a solution of gum arabic, rendered stimulating by the chloride of sodium. The dressings were terminated by the application of fine tow, and the scapular bandage. The patient, after experiencing evident relief, was confided to the care of M. Sponville, one of the surgeons-major of the light *ambulances*. I was subsequently informed, that he was removed on the thirty-fifth day from Smolensk to Poland, in a state progressing to a cure. I have

since had no tidings respecting him; but there is no doubt of this soldier's recovery, provided he escaped other maladies."

The celebrated battle of Mocowa, the last stand made by the Russians in defence of their capital, was fought on the 7th Sept., commencing at 6 o'clock, A. M., and continuing until 9, P. M. Baron Larrey, in consequence of the limited number of surgeons high in rank, was compelled to perform most of the important operations himself. A square space, about 1000 yards in circumference, was assigned to the medical staff, where they continued the performance of difficult operations in the open air without intermission, except when occasionally called to dress the wounds of a superior officer on the field of battle, until late in the night of the following day. This situation was the more distressing on account of the cold cloudy weather. "It was with difficulty that a wax taper was kept burning before me during the night. I had no absolute need of it," he adds with a very excusable vanity, "but for the application of ligatures to arteries."

In a number of cases upon this occasion he performed the operation of amputating the thigh on a level with the great trochanter, where the wounds were so high as to prevent the circular operation. One patient, whose thigh was amputated at the hip joint, recovered.

He insists strongly on the general propriety of amputating when the os femoris is broken by a gun-shot wound. The necessity is very urgent when the ball has pierced the limb a little above the knee. The wound at first view appears slight, and an inexperienced surgeon would think every thing favorable to the preservation of the limb, the patient for the first few hours suffering but little; but in a few hours tumefaction supervenes, the cellular substance becomes filled with black grumous blood, and the constitution sinks under gangrene or protracted suppuration.

The Baron preserved the knee in many patients in whom the leg was wounded by gun-shot wounds, so as to induce most of the surgeons of the army to recommend amputation of the thigh.

In these cases he sawed through the tibia, above the level of the tuberosity in which the patella is inserted, having previously dislocated the fibula. These cases terminated happily, although the integuments were not at all times sufficient to cover the wound. Several of the patients fabricated for themselves wooden legs, and made good their retreat through all the horrors of that ill-fated expedition. During the first twenty-four hours Baron L. performed about two hundred amputations. Many of these perished miserably from the want of every necessary which their unhappy condition demanded. Horse flesh, potatoes, and the stocks of cabbage, were for some days the only aliment, and even these were for a time exhausted.

These distressing privations were relieved upon the arrival of the army in Moscow; which city they found deserted and in flames. In the retreat, the wounded that were unable to take care of themselves all perished.

Two chapters of the work are devoted to an account of the retreat, and the history of the effects of cold upon the army. The army commenced their retreat on the 19th of October, and from this period until the middle of December, they suffered every distress that cold, hunger, and every species of privation can inflict upon men effecting a retreat in the depth of winter, through a hostile country, naturally barren, and still further desolated by the ravages of war. "Three thousand men, consisting of the best soldiers of the guard, as well infantry as cavalry, nearly all of whom were from the *southern part of France*, were all that resisted the cruel reverses of the retreat. They still preserved their arms, their horses, and their warlike appearance. The honor and renown of the French armies were in a measure concentrated in this small chosen body."

Baron Larrey states as a curious fact, that the troops from southern climates withstood the morbid effects of cold much better than those, who by a habitual exposure would be expected to be less affected by it.

"I have remarked, that individuals of a dark complexion, and of a bilio-sanguine temperament, almost all from the southern countries of

Europe, resisted the severe cold better than those of a fair complexion and lymphatic temperament, who, with few exceptions, were inhabitants of northern situations. This is contrary to the generally received opinion. The circulation in the former is doubtless more active, and the vital forces possessed of more energy. It is also probable that their blood preserves much better, even under the influence of the most intense cold, the principles of animal heat, which is identified with its coloring portion. From the same cause, their moral powers are sustained to a greater degree, courage does not abandon them, and by a careful preservation of themselves, they can shun dangers better than the inhabitants (who are in general phlegmatic) of cold and humid climates. Thus we saw the Hollanders of the third regiment of grenadiers, belonging to the guard, consisting of one thousand seven hundred and eighty-seven men, both officers and soldiers, almost totally perish, for there returned to France two years subsequent, but forty-one of the number, comprising the colonel, General Tindal, who was wounded. The other two regiments of grenadiers, however, consisting of men, who were, with few exceptions, from the southern provinces of France, preserved a pretty large part of their soldiers. It is, moreover, true, that in proportion to their numbers, the Germans lost more soldiers than the French. Several of our physicians that remained at Wilna have assured me that the cold destroyed more individuals of the coalition, proportionally speaking, than of the French, (as I have already remarked;) though the former had access to a greater variety of means of guarding themselves against the effects of this deadly agent, than our unfortunate countrymen. The latter, deprived of their garments by the Cossacks, and driven from place to place in a state of more or less complete nakedness, did not resist in a less degree, the greater part of the injurious effects, resulting from the cold air, and, by dint of courage and industry, obtained for themselves an immunity from total congelation.

The French, Portuguese, Spaniards, and Italians, were again those, from whose ranks was derived the smallest number of victims to these cruel reverses. This is a new argument against the assertion of the author of the *Esprit de Lois*, a new proof, that the inhabitants of these southern countries have more energy and power to resist the action of cold, than those of northern locations. Agreeably to the report of several physicians and surgeons, who participated in the fate of our soldiers, and were conveyed with them to Siberia, nearly all the individuals belonging to our allies from Germany, Hanover, and Holland, perished at an early hour. Some Russian troops and Poles, however, resisted these calamities much better. But, as I have remarked in my campaigns when speaking of it, this latter nation originated in Asia Minor, and, according to this report, must have great similitude of Physical constitution and character to the inhabitants of the southern countries of Europe, such as the French. Thus, whatever may be the governments and laws, under which the inhabitants of southern countries live, they will always be superior in activity, moral energy, and physical constitution, to those, whom cold

and permanent humidity must, by restraining their energies, keep in a constant state of apathy, indolence, and a kind of timidity. Spain furnished us a signal proof of this truth.

Doctor Mestivier, who lived several years at Moscow, assured us, that the French alone could walk with impunity, in the streets of that city, during the most intense cold of winter, with a simple great coat over their other garments, whereas the inhabitants could scarcely withstand the severe weather, although they were covered with furred cloaks."

We transcribe the following account of the manner in which the death of these men took place.

"The death of these unfortunate victims was preceded by paleness of the countenance, by a kind of delirium, difficulty of speech, weakness of sight, and even entire loss of this sense. In this state some walked to a greater or less distance, supported by their comrades or their friends. Muscular power was sensibly diminished, and these persons staggered like men under the influence of intoxicating liquors. Their debility progressively augmented until they fell prostrate, which was a certain evidence of the total extinction of life.

The uninterrupted and rapid march of the soldiers in a body obliged those that were incapable of keeping up with the progress of the troops, to quit the centre of the column, in order to resort to the edges of the road, and proceed along its sides. Separated from this compact body and abandoned to themselves, they soon lost their equilibrium, and fell in the ditches, filled with snow, from which they arose with difficulty. A painful numbness soon seized upon them, and lethargic drowsiness supervening, their sad existence was soon terminated. There frequently occurred, previous to death, an involuntary discharge of urine. In some instances, hemorrhage took place from the nose, a circumstance that was particularly remarked by us on the heights of Miedneski, which appeared to me to be one of the most elevated points of Russia. I have grounds for believing, that the barometer would have fallen considerably in this high situation. The exterior atmosphere having become rarefied, and the elevation of this region offering no resistance to the action of the fluids, the movements of which are supported by the internal vital powers and the expansion of animal heat, they escape at those points where they meet with the least resistance. It is commonly from the mucous surfaces and particularly that of the nasal membrane, in which the capillaries are very abundant and susceptible of prompt dilatation, that these discharges take place.

This death did not appear to me to be attended with much suffering. the vital powers were gradually extinguished, and together with them the general sensibility was removed, and the perceptions of the sensitive faculties lost. It is probable, that the heart was at last paralyzed, and all the vital organs arrested at the same time in the performance of their functions. The fluids, already reduced in quantity by priva-

tions, and the absence of caloric, speedily coagulated. We found nearly all of those, who perished under the continued influence of cold, lying on the abdomen. Their bodies were stiff, their limbs inflexible, the skin discolored, and without any appearance of a gangrenous spot."

Immense numbers perished in consequence of imprudently approaching bivouac or suddenly entering a warm room. Some fell dead suddenly; in others gangrene manifested itself, and spread with such rapidity, that its progress was visible to the naked eye, and in a third class the limbs suddenly swelled, the turgescence appeared to pervade the pulmonary tissue, and the patient died of suffocation in a few hours.

The means recommended by Larrey for the prevention of mortification, were dry friction with snow, or substances possessing little heat, and if this failed in restoring the circulation, the immersion of the limb in cold water, in which it was directed to be bathed until bubbles of air were seen to disengage themselves from the congealed part. By the use of these means he escaped any serious accident, although his fingers and toes were frequently deprived of all sensibility.

No internal maladies manifested themselves among the soldiers during the retreat, but when they came within the confines of ancient Prussia, where they had access to food placed at their discretion, and were placed in warm rooms, the majority of them were seized with ataxic fever, accompanied with inflammation of the membranes, especially of the meninges and the mucous membrane of the air passages.

"These two principal effects were announced by compressive pains in the head, accompanied with heaviness, injury of the mental faculties, and alteration in those of the sensual organs. The patient was seized with general debility, and extremely painful anxiety. Cough manifested itself and rapidly augmented. It was more or less violent, and attended with a mucous, and occasionally a bloody expectoration. There frequently supervened, at the same time, diarrhœa, with an inclination to vomit, and colicky pains. The pulse was febrile, the skin dry, and the patient experienced a painful numbness in the limbs, cramps, convulsions, and a stinging pain in the soles of the feet. The patient slept with difficulty, and was subject to sinister dreams. The vessels of the conjunctiva were injected. Paroxysms of fever were manifested during the evening. The pulsations of the

carotid, and temporal arteries, became sensible to the eye, and delirium, or lethargic drowsiness was established, and the danger of the sufferer became imminent.

In the inspections of the dead bodies which I frequently had an opportunity of making, a white layer of albuminous substance, unconnected with any suppurating point, was found on the surface of the brain. The sinuses of the dura mater were filled with black coagulated blood. The encephalon was compressed, its tissue more dense than in ordinary cases, and its vessels injected with dark colored blood. The mucous membrane of the larynx and bronchia was of a blackish brown tint in some parts of its surface, the intestines considerably shrunk, and the omenta scarcely observable; the latter was the result of abstinence. Gangrenous eschars were perceived in almost every instance, in the inferior extremities and abdomen."

A favorable termination was indicated by nasal hemorrhages, or by a dysentery supervening between the fifth and ninth day, and in some cases by profuse sweats staining the linen of a brownish hue. An unfavorable issue, on the other hand, was indicated by apoplexy, erysipelatous spots on the lower extremities which soon became gangrenous, the urine becoming scanty and of a dark color.

These cases were treated by cupping and leeching during the stage of excitement, and occasionally by drawing blood from the jugular vein or the temporal artery. Good effects also resulted from the circumspect application of ice to the head. Pediluvia and sinapisms were applied to the feet, and embrocations of camphorated vinegar over the whole surface of the body, at such a temperature as was indicated by the state of the skin. When the excitement was reduced, a gentle emetic was given with great advantage. After the primæ viæ were cleansed, the patient was placed on the use of mild tonics, and a nutritive diet.

The individuals who labored under this disease had a tedious convalescence, a consequence of the derangement and debility of function, and the long abstinence, produced by the excessive privations to which they had been exposed, and were under the necessity of returning to their accustomed habits with extreme caution. They were obliged to eat often, and a little at a time, as the least excess in eating gave rise to colics, and

speedily occasioned relapses. The convalescence was followed in many cases by the loss of hair from every part of the body, and in one remarkable case by the falling off of the nails from the hands and feet. These were, however, after a time regenerated.

In the spring, the war was again renewed in Saxony, and this campaign forms the subject of the fifth chapter. We cannot indulge ourselves in giving an account of the important surgical cases which resulted from the numerous and bloody battles of this campaign.

He describes an absurd mode of amputating limbs, in practice with the Saxon, Prussian, and Polish surgeons. We give the description in his own words.

"The Saxons divided the skin and muscles by means of a curved knife at one stroke, and the bone nearly on a level with the section of the soft parts. The tourniquet exercising a strong compression on the arteries, the wound was sewed up without the application of ligatures to the vessels. The exact and close union of the edges of the wound generally prevented hemorrhage. Notwithstanding the simplicity and reasonableness of the French method, nothing less than experience and the success obtained, could convince the physicians of the country of its utility, who, in other respects, were very estimable for their social qualities and distinguished merit."

He was induced to inquire into the practice in consequence of observing the patients who had suffered amputation, labor under excrutiating pain. He advised the immediate removal of the ligatures and of the adhesive straps by which they were supported, and the application of emollients to the stump—nevertheless, many of the patients died of irritation or gangrene.

A curious question was proposed to Baron Larrey during this campaign, for his decision. The proportion of wounded in this campaign had been unusually great, and of these, a very considerable number consisted of mutilations of the fingers and hands. A rumor consequently gained circulation, which was countenanced by many of the surgeons, that the soldiers had voluntarily maimed themselves to avoid further service. The author supposed that the large proportion of this description was occasioned by the more elevated position of the enemy,

who, in these engagements generally occupied the summits of the hills. The balls glancing from the barrels of their guns, would consequently be more liable to wound their hands, as the more exposed parts. A similar event had been observed upon other occasions, especially in the war which had been conducted in the mountainous districts of Spain.

This chapter contains a valuable memoir upon wounds of the head. A short quotation will exhibit the subjects to which he confines his remarks.

"First, Those cases in which trephining is indispensable, and the period at which this operation should be performed;

Secondly, Those instances in which the trephine, though as strongly recommended by authors, is useless, even injurious, and the means that may be adopted, under some circumstances as substitutes for this operation;

Third, What is expedient in hernia of the brain;

Fourth, and finally, the causes of absceses in the liver, succeeding wounds of the head."

Trephining is indispensable under the following circumstances.

"In a wound of the head, accompanied by a fracture of the cranium, should the fragments of bone be displaced and driven internally, so as to injure the brain and dura mater, the trephine is indispensable.

When the foreign body, which has caused the wound, is enclosed between the pieces of bone, or has penetrated into the interior of the cranium, without being removed from the vault of this cavity, the case is again one which demands the application of the trephine.

Finally, when the surgeon is assured of the existence of effused fluid under the cranium, this instrument is also indicated."

We before alluded to the case of the Prussian soldier, whose frontal bone had been penetrated by an iron ball weighing seven ounces. The patient experienced a sensation of weight, and an extremely painful dullness in the head, and fell into a state of syncope when he inclined backward. He kept himself constantly in a sitting posture, resting his head upon his knees. The trephine was applied, the ball and some fragments of bone removed, and the patient did well. In wounds of this kind, if the subject be young, the bones yield, and permit the ball to

pass through a very small perforation, consequently, the trephine is indispensable for its extraction.

2. The trephine is not to be applied when the fragments of bone are not driven in, when no foreign body is present, and when the symptoms of compression are not very urgent. When the trephine is necessary, it should be applied before the inflammatory symptoms supervene, and if this period is suffered to pass unimproved, it should be delayed until the inflammation subsides. If this event does not take place, the only effect of the operation would be to hasten the fatal issue.

3. Hernia of the brain (encephalocele). The Baron, in this disease, is opposed to the knife, caustic, pressure, or stimulating applications. He has seen but one case terminate in recovery; and in this, the hernia was not very large. The dressings, in this case, were of the mildest kind, the protruding brain was carefully protected from the air, and the causes of internal excitement, and external mechanical irritation carefully avoided.

The plan proposed by Professor Dudley, appears to hold out a reasonable prospect of success. He recommends the hernia to be covered with a piece of very soft dry sponge, which is bound on with a moderate degree of firmness. The sponge gradually expands by imbibing the secretions from the wound, and thus a moderate compression is kept up, which restrains the protrusion, and at length, by degrees, reduces it without violence.

We subjoin a curious instance of the gradual recovery of the intellectual powers after severe injury of the brain. A soldier was wounded with a small sword, which, entering the left canine region near the ala nasi, penetrated backwards, and inwards, three and a half inches, doubtless entering the cavity of the cranium through the ethmoid bone, and producing effusion there. The senses were destroyed, and the right side of the body paralysed. These have been gradually returning, although in an imperfect and unequal degree.

"The recollection of substantive nouns, which bore much analogy to proper names, was totally destroyed, and is not at present regained

but with very great difficulty, whereas the memory of images, and every thing susceptible of description is in a state of perfect integrity. Thus, for instance, the patient recalled very readily the person and features of M. Larrey, whose services he had frequently received in different diseases and wounds. He knew him very well, and saw him constantly before his eyes, (expressions used by the patient,) but he could never recollect his name, so that he designated him by that of M. Chose. He also forgot the names of his relations and friends.

Abscesses of the liver following wounds of the head. Different hypotheses have been framed for the purpose of affording an explanation of this curious phenomenon. The most plausible has been, that the lesion of the liver is produced by the same accident that produced the injury of the head, and the results of experiments on dead bodies, have been given in defence of this hypothesis; but experiments on dead bodies can seldom explain the phenomena which occur during life. The size, weight, and delicate organization of the liver and the insufficient manner in which it is supported, have been supposed to render it peculiarly liable to injury from a violent shock given to the body, but this organ owes its security to the yielding character of its adhesions, and the vital resistance of the abdominal parietes, and hence it is generally found uninjured in post mortem examinations, after the most violent shocks, if the force of the blow has not been communicated to the hypochondrium.

The following is Baron Larrey's opinion, in support of which he advances a variety of evidence.

"1st, That these abscesses are but very rarely essentially owing to a blow, or direct pressure exercised on the liver, by the fall of the person injured, or by any contusing body, which may have acted violently on the right hypochondrium;

2d. That the origin of these abscesses should be referred to the sympathetic irritation, experienced by the viscus in which they are seated, in consequence of the inflammation established in the fibrous membranes of the cranium, or bones of the superior or inferior extremities, particularly those of the same side, and the determination towards this viscus of the ichorus miasm, or a fluid more or less acrid and subtile."

An account is given of a wound inflicted with the intention of committing suicide by discharging a pistol barrel charged

with two balls, within the cavity of the mouth, which was cured without occasioning much deformity. It will be given under the head of *Analectic Intelligence.*

Some interesting wounds of the throat are detailed, one of which we extract on account of the practical principles involved.

"Jacques Brisnot, the second individual, was a junior sharp-shooter of the guard. He was wounded the day before the battle of the 27th of August, and was one of a small number of patients of this character, under the charge of M. Emangard, one of our surgeons-major. The danger of his situation was indicated by the very great embarrassment with which he breathed; his speech was nearly extinct, and he suffered the agonies of death. Respiration was scarcely carried on, and some bubbles of air, with a large quantity of frothy blood, escaped with difficulty, through a gunshot wound in the left side of the larynx, between the thyroid cartilage and os hyoides, which latter was fractured. The ball traversed the throat, and made its exit behind the left angle of the jaw. The patient lost much blood, and was nearly suffocated, in consequence of that contained in the cavity of the larynx; the epiglottis cartilage had been removed, and the thyroid cut. The attending surgeon-major hesitated as to the manner in which he should proceed to promote a restoration of the functions of respiration, and to cause the blood effused into the larynx, to issue from it. The very happy idea, however, of cutting the thyroid cartilage, occurred to him. At that moment, the air rushed with violence from the bronchia, and pushed before it the clots of blood, which filled this canal, and were about to cause the suffocation of the patient. The surrounding parts were relieved from their congested state, respiration re-established, and the life of the patient no longer in danger. The wound gradually assumed a healthy condition, the functions were successively performed with more regularity, the edges of the wound approximated, the cicatrix pretty speedily completed, and the patient cured in a very short time; merely a slight degree of aphonia remained.

This case proves the necessity of giving free vent to matters retained in the cavity of the larynx. In order to fulfil well the indication presented in contused wounds of this organ, with penetration of it, and extravasation of fluids, or the presence of foreign bodies, it is better to enlarge the wound on the side of the cavity towards the trachea, like the celebrated Spanish surgeon Virgilii, so far as the principal surrounding vessels or nerves permit, than to make an opening at one of the points selected for the performance of laryngotomy and bronchotomy. There would, in such a case, be two apertures in the larynx, instead of one, and the functions of respiration be thus injured.

The passage of balls into the muscular and lateral parts of the neck, however superficial may be the track formed by them, has almost

invariably given rise to paralysis of the arm of the same side. Experience has taught me, that the laying open of the wound, executed with care, immediately after the accident, prevents this paralytic affection, doubtless because the nervous branches, lacerated or ruptured by the projectile, do not, as in the contrary case, contract too close adhesions at the depressed portion of the cicatrix, whence results an alteration in the vital properties of the injured nerves, and those with which they are connected. In consequence, also, of the binding force and compression exercised upon them, their sensibility is destroyed and paralysis is developed and propagated to all the parts to which the affected nerves are disturbed. Moxa, however, applied to the cicatrices, and along the course of the primitive branches of these nerves, restore their functions, and dissipate their paralysis. The employment of this remedy, in the treatment of this disease, has proved successful in many instances. The mode of using it is pointed out in another article of my *Campaigns*, and in the *Dictionaire des Sciences Medicales* under the head of *Moxa*."

Wounds of the Thorax. When a ball or other foreign body is lodged in the thorax, its constant tendency is to form for itself a passage downwards until it meets with a fixed point of support, whose sensibility is not greatly exalted by the extraneous irritation. In this manner it generally finds its way to the most depending portion of the chest, until it is supported by the diaphragm and the thoracic parietes. A fistula with a secreting surface is thus formed through the whole course of the foreign body, and a seat of purulent secretion is kept up also where it is lodged, giving rise to empyema, or troublesome fistulæ.

When the position of the projectile can be accurately ascertained, its immediate removal should be attempted. If the affection is recent, this may generally be done through the intercostal space, but when the case has been of longer duration these spaces become contracted, and the removal of a portion of one of the ribs becomes necessary. The form of the rib, and the nature of its connections render the saw or the trephine inapplicable. But the rib may generally be divided, without difficulty, by means of the lenticular saw used in trephining. The foreign body being removed, the suppurating cavity is soon closed. "The cavity is gradually obliterated by the enlargement of the capillary vessels of the pleura, mediastinum, diaphragm, and,

perhaps, also, of a part of the lung: the intercostal muscles lose their contractile power, and the ribs approach each other; the cartilages are deprived of their curvature and depressed towards the thoracic cavity; the nutritive process in the sternum and ribs undergoes such a change, that these bony arches, having lost their curvature, assume a cylindrical form, and thus contribute to the reduction of the vacancy." In fine, every part in the vicinity contributes its share to bring the surfaces in contact, when their vessels contract adhesions, and form anastomoses; the cicatrization extends from the interior to the exterior, and the external wounds disappear.

Wounds of the Abdomen. We have little to notice under this head. The author recommends the dilation of the wound and the application of dry cups over it, and, if there be effusion of blood in the loose cellular texture which abounds in these parts, the application of cups with scarifications in the vicinity. The cups, he thinks, have the power to remove the blood effused into the sinews of the wound, to relieve the debilitated vessels of their engorgement, to promote the absorption of the extravasated fluids, and to prevent inflammation.

In wounds of the abdomen, accompanied by protrusion of the omentum, if this membrane cannot be restored before the tumefaction, which quickly supervenes, takes place, the author recommends its restoration to the abdominal cavity to be left to nature. If it be strangulated, the external wound is to be laid open to a sufficient extent to liberate it completely, and the protruding part is to be carefully covered with fine linen, spread with a mild cerate, for the purpose of preventing its adhesion to the integuments around the wound, and of guarding it from the air and from foreign irritation. The tumor, in a few days, becomes dense, red, wrinkled, and highly sensible. These symptoms increase for three days, when they remain stationary until the fifteenth. At this period the sensibility and redness subside, the tumor diminishes in size, the angles of the wound are drawn apart, and it generally soon returns into the cavity of the abdomen. The rapidity of

this reduction depends very much upon the age and constitution of the patient, and the situation of the wound. It takes place more readily in young and healthy patients and in wounds below the umbilical line. If it should be tardy, it may be accelerated by gradual and moderate pressure. If gangrene of the protruding omentum takes place, its separation is to be left to nature, simply removing such parts as may be taken away without touching the living parts. Temporary adhesive inflammation takes place between the omentum and edges of the wound. The affected part sloughs, and the pedicle, in a healthy condition, is quickly and spontaneously returned into the abdomen. Where the gangrene has invaded the viscera within the abdominal cavity, the patient must of course be left to the resources of nature, with the use of such means as may assist her operations.

These are the general principles upon which gangrene is to be managed. If a different course is pursued and the omentum is cut off to prevent the extension of gangrene, the life of the patient is endangered by hemorrhage, and, if a ligature be applied around a sound part of the omentum, severe irritation is produced, which is frequently followed by inflammation, abscesses, gangrene, and death.

The memoir on the wounds of the bladder contains much valuable historical information, in addition to the results of Larrey's experience. The bladder, when empty, is not easily wounded, either by a ball or cutting instruments. If it is penetrated above the peritoneum, the inflammation produced by the escape of the urine soon causes death. If the wound is below the peritoneal cavity, an emission of urine takes place from the wound, which will be continued or not, according to the position of the wound, and the care that is taken to keep the bladder empty. If the track of the wound is extensive, abscesses are formed in different parts, through which the urine escapes. In gun-shot wounds, however, this infiltration is not liable to take place until the separation of the sloughs.

Internal hemorrhages frequently takes place, and if they do not prove fatal by the loss of blood, serious consequences are often produced by its extravasation in the loose cellular membrane of those parts. The blood rarely coagulates in the bladder on account of its being mixed with the urine. In all wounds of this kind the author attaches great importance to the cautious dilation of the wound at the point of the entrance and exit of the ball. It prevents engorgement and inflammation, and facilitates the separation of the sloughs.

What is to be done when the projectile is lodged in the bladder? If the body is small, it may be passed by the urethra, and this event will be facilitated by dilating that passage. If they are larger, Baron Larrey recommends the operation of lithotomy to be performed at once. By this means we at once relieve the patient of the ball, and of other substances that may have been carried with it that would be likely to prove a nucleus for urinary deposits.

This volume contains several valuable memoirs—*on Wounds of the Arteries—on the Actual Cautery*, and *on Amputation of the Arm.* From these we shall only extract the Baron's mode of amputating the arm at the shoulder-joint.

"The patient being seated at a suitable height, I commence the operation by a longitudinal incision, beginning at the edge of the acromion and descending about an inch below the level of the neck of the humerus. By this act I cut through the integuments and divide the fibres of the deltoid muscle into two equal parts. Causing then the skin of the arm to be drawn towards the shoulder by an assistant, I form two flaps, an anterior and posterior one, by two oblique cuts, from within outwards and downwards, so that the tendons of the pectoralis major and latissimus dorsi are comprised in each section. No apprehension is to be entertained as to injuring the axillary vessels, since they are out of the reach of the point of the instrument. The cellular adhesions of the two flaps are then divided and raised up by an assistant, who at the same time stops the cut circumflex arteries, and the whole shoulder-joint is laid bare. By a third circular incision around the neck of the humerus, the capsule and articular tendons are divided; the head of the bone is drawn a little outwards, and the knife is passed to its posterior part in order to complete the section of the tendinous and ligamentous attachments on this side. The assistant immediately directs the first fingers of his two hands to the brachial

plexus, in order to compress the artery and render himself master of the blood. The cutting edge of the knife is, in fine, turned backwards, and the bundle of the axillary vessels divided on a level with the inferior angles of the two flaps, and in front of the assistant's fingers. The patient does not lose a drop of blood, and, the pressure being continued, the extremity of the axillary artery is easily discovered; it is then seized with a pair of dissecting forceps, in order that a ligature may be immediately thrown around it. The circumflex vessels merely remain to be tied, and the operation is terminated.

The wound having been cleansed, the flaps are approximated, and maintained in contact by means of two or three adhesive straps, moderately tight, and the whole stump covered with fine linen dipped in some tonic liquid, such as warm wine. The dressing is concluded by the application of charpee or fine tow over the linen, with simple quadrilateral compresses, and an appropriate bandage."

At Troyes, in Champagne, I had occasion to operate on a soldier of the train of artillery. The case relating to this amputation has been drawn up and presented to the Society of the School of Medicine by M. Carteron, a physician of that city and witness of the operation.

In extirpating this soldier's arm, which a ball of large size had entirely disorganized, at the same time shattering the scapula, I extracted two-thirds and a half of the latter bone, and the humeral extremity of the clavicle. The details of the case may be seen in the Bulletin of this Academy.

Another instance, entirely similar, was presented at the capture of Smolensk in Russia; I performed the same operation and with like success. From the report which was addressed to me by M. Bachelet, surgeon-major of the hospitals of this place, I learned that the patient had been removed towards Poland, the wound having completely cicatrized.

How is the success obtained by us from this extirpation, according to the method which we have just described, to be explained? Such success, indeed, that of an hundred, and some operations of this kind performed by us in the different armies or in Paris, more than eighty, have terminated happily. This could be easily proved by the registers of the pension office with the minister at war. I will attempt to indicate the causes of it without, however, pretending to pronounce positively upon the question.

1st. The perpendicular incision which I make in the centre of the shoulder, marks out with accuracy the rest of the operation, and facilitates its execution; it is, moreover, done in a moment. The two flaps of the desired dimensions, are then cut in an exact and regular manner, so that this section presents the result of a circular amputation. The head of the humerus is easily dislocated in all possible cases.

By the manner in which I cause the vessels to be seized, previously to dividing the parts in the hollow of the axilla, I prevent all hemorrhage and place the life of the patient in perfect security; an appreci-

able advantage, on which essentially depends the success of the operation.

2d. Nature effects the cicatrization of flaps with so much the greater facility, as their union takes place in the direction of the longitudinal diameter of the glenoid cavity; the majority also of the muscles of the shoulder are divided lengthwise with their fibres, or cut at their tendinous insertions, a circumstance promotive of reunion, and of the formation of the cicatrix, which becomes linear.

3d. In short, we think that the few nerves belonging to organic life in the shoulder-joint, and the large number of them about the hip-joint, may in general explain the success of one of these operations, and in many cases the failure of the other."

The works of Larrey are among those which ought to be in the hands of every student of surgery. Independent of the advantage to be derived from tracing the mental operations and witnessing the resources of one of the most original observers of this or any other age, it is of the first importance to the student to imbibe the inspiration of genius by accompanying it through the emergencies which it is called upon to meet in a life of singular peril and self devotion.

Baron Larrey, as a surgeon, was exemplary for his humanity, which manifested itself in his attention to the soldiers, and the great exertions which he made, and the privations he voluntarily incurred for the sake of providing for their wants.

The attachment of the soldiers was consequently unbounded, and only equalled by the enthusiasm of their devotion to the Emperor.

The proof of esteem manifested in the following quotation, exhibited too at a time when almost all social feelings were annihilated in the instinctive impulse of self-preservation, confers upon the subject more honor than he has derived from all his professional achievements. The occurrence took place during the retreat from Russia, in the passing of the Berezina.

"The two bridges, the construction of which had been undertaken, were, in the mean time, completed without the knowledge of the enemy. The guard succeeded the first and fourth corps in their passage across them, and reached the opposite bank, without opposition and without accident. But as the cannons of large calibre were passing to the opposite side of the river, one of these bridges was broken down. The progress of the remainder of the artillery, of all the equipage,

and *ambulances*, was thus arrested. The occurrence gave rise to great alarm among those that remained on the left bank. At this moment of suspended operations, the troops of Wittgenstein, which followed us closely, attacked our rear guard. All possible resistance was made by the latter. Being forced from its position, this body endeavored to effect their retreat, and facilitated by this movement the approach of the enemy, whose bullets and other projectiles fell among the immense crowd already collected at the head of the bridges. The latter had doubtless been repaired, but had become impassable from the impediments and disorder, of which they were the scene. Fear pervaded the minds of all. The multitude crowded, dashed on all sides, and rushed one against the other. The strong overpowered the weak, and the latter were trodden under the feet of the crowd. The carriages, artillery, and baggage wagons were overturned and broken to pieces, and the horses and drivers crushed under the wreck. In short, nothing was heard on all sides but lamentable shrieks. To complete this tragic affair, the badly secured bridges were again broken. From this moment, all hope of safety was apparently destroyed. The majority of the multitude were influenced only by despair. They rushed on a body of ice, supposing it possible to cross the river in this way, as the stream appeared to be congealed, but their progress was arrested, near the opposite bank, at a point, where the body of ice was interrupted by the force of the current. Some swam across this space, others had the misfortune to be drowned, or to become entangled against the sheets of the frozen element. They perished in this situation the more speedily in consequence of their being already benumbed by the cold, and attenuated by privations. Those possessed of more courage and prudence returned, in order to throw themselves into the power of the Russians, and withdraw from the horrid spectacle they were witnessing.

Many individuals, of all classes, lost their lives in crossing the Berezina. Mothers were seen voluntarily following the fate of their children, who had fallen into the river, or drowning themselves with their offspring, holding them tightly in their arms. Many other acts of a character equally touching, were observed during this calamatous state of things.

Notwithstanding the difficulties which were almost insurmountable, I had repassed one of the bridges some hours previously to its rupture, for the purpose of having some cases of surgical instruments, which were much needed by the wounded, conveyed to the right bank of the river. This short journey was near costing me my life. I had like to have perished in the crowd in my turn, when fortunately I was recognized. Every one immediately made exertions to aid my efforts, and carried from soldier to soldier. I found myself, to my great surprise, in a few moments on the bridge. This evidence of their attachment to me soon obliterated from my memory both the dangers, to which I had been exposed, and the loss of my baggage."

It seldom falls to the lot of any individual to receive so striking a testimonial to his personal worth. The gratification that he derived from it can only be conceived by him who is capable of making the sacrifices by which he merited so rich a reward. F.

Art. X. *Epidemic Cholera.*

We take advantage of an unavoidable delay in issuing the present number of the Journal, to give some account of this formidable disease, which has made its appearance among us with a degree of violence greater than has been witnessed in any of the large cities of the United States. At its first appearence the cases were so few and scattering, that its existence was denied and disbelieved by many of our physicians, and by a large number of the citizens. Ten or fifteen cases of marked and unequivocal cholera had occurred in the city early in this month, all of which terminated fatally, and in two or three days after the election on the 9th, it spread so rapidly and with such fatality, that all doubts respecting its character were speedily dispelled, and the inhabitants filled with the greatest alarm.

It is not our intention at present to enter into the history of the disease, as it prevailed among us, nor into a detail of the circumstances under which it made its appearance. We shall simply give a few facts for the benefit of those living at a distance, who, in all probability, will be called upon sooner or later to contend with it.

There is now but one opinion respecting its origin. Whatever suspicions many have had respecting its propagation by contagion, they were at once dispelled, and the most remote idea of this kind is not now entertained by an individual of any intelligence in this city. Fortunately for the city, the generous impulses of humanity have scarcely, on a single occasion, been re-

pressed by the fear of contagion. Upon this point the most full and perfect evidence has been collected by the Senior Editor, and will be published in the next number of the Journal. We will therefore, simply remark, that those among our physicians who believed that we would enjoy an immunity from the disease until it was imported from abroad, have now adopted the opinion expressed upon a former occasion by Dr. Drake, that the causes of the disease have been operating upon our citizens, for some time previous to its appearance under its characteristic symptoms, and are able to call to mind cases which, under the light which since has been thrown upon the subject, they do not hesitate to ascribe to cholera.

The cholera in this city has indiscriminately attacked our inhabitants, of every grade, temperament, and habit of life, and if the rich and the temperate have suffered less than the poor, the drunken, and the exposed, it is not from any immunity against the disease, but from their more carefully watching its first approaches, and from the first stage being milder in its character, and of longer duration. At its first invasion, it was confined, among the white population, almost entirely to the males, as it advanced, the proportion of female victims increased until the difference became inappreciable.

Three distinct stages can generally be pointed out in the disease as it has occurred in this city—1, the stage of irritation—2, the stage of collapse—3, the stage of reaction. We give the names for the sake of perspicuity as they are used by other writers, without attempting to decide upon their correctness.

The first stage has appeared to us to consist in a derangement of the system, extending very generally to all the organs and functions of organic life—the stomach has been affected with loss of appetite, indigestion, nausea, pain and undefinable sensations—the bowels with diarrhœa, bilious or serous, or with tenesmus with a scanty discharge—the muscles with weakness, lassitude, and sometimes, although not universally, with an unusual and extreme debility—the mind is inactive, incapable of making an effort at reason or investigation—the surface of the body pos-

sesses a great susceptibility to the impression of external cold, and a tendency to free perspiration. This state of the skin has been very general even when the skin was dry and the heat above the standard of health, the individual requiring additional clothing, and frequently complaining of chilliness upon the slightest agitation of the air of the room. The condition of the pulse was various, generally quick and irritable, sometimes, perhaps more frequently, full, open and soft, in other cases small and weak.

This is the first stage—the stage of premonitory symptoms. The evidences of disease are not very characteristic, nor very distinctly marked. The derangement of the health is in many instances so slight, that under ordinary circumstances an individual would not even think of acknowledging himself sick, nor are they all generally present in the same individual. The diarrhœa is most generally present, but when we recollect that individuals are suddenly reduced to the very brink of the grave without either vomiting or purging, it would be in vain to look for derangement of the alimentary canal as a universal precursor of the disease. The symptoms, although slight, are sufficient to warn a prudent man of his danger, and at this period the disease is perfectly within control—more so, perhaps, than any other which we have ever been called upon to prescribe for.

The duration of this stage varies from one or two hours to as many weeks, the system balancing between health and disease, the vital functions not seriously interrupted, but in a condition, under the influence of the slightest cause, to run into universal derangement. In persons of good health, temperate in all their habits, and exposed neither to cold nor fatigue, they generally continue for some time, and when an explosion does take place, the symptoms of the second stage, for the most part, come on gradually. If, on the other hand, the health is delicate and the constitution impaired, the habits intemperate in any respect, the perspiration checked by exposure to cold, or the strength reduced by fatigue or want of rest, the first stage passes over so rapidly that the patient is in the state of collapse before it is possible to get him under the influence of any remedial agent.

The symptoms of the second stage are a sudden recession of the blood from the capillary vessels, a relaxation of the exhalent vessels, which terminate on the surface of the body, and the internal surface of the intestines, and in consequence of a profuse perspiration and a copious discharge of watery fluid from the stomach and intestines; the muscles of the extremities, and occasionally of the trunk, are affected with spasms, the extremities first, and then the body become cold, the pulse becomes feeble, or imperceptible, the hands and feet are shrivelled, and the body assumes a dark purplish hue, the breathing is laborious, the voice fails, the breath becomes cold, and the patient, without much pain, is indescribably restless, complains of agonizing thirst, and a most uncomfortable sense of heat, although the body is as cold as death. At length, however, he becomes more composed, the vomiting, purging, and the spasms, cease of themselves, or from the effect of medicines, the instinctive feeling of mortal agony is diminished as the sympathies of animal life are destroyed by the gradual extinction of the vitality of the organs, and the patient lies composed, either resigned to his fate, or expecting to recover. The degree of these symptoms and the order of their succession is very various. The sense of chilliness, the characteristic purging of a whitish transparent fluid, with flocculi resembling a few grains of rice subsiding to the bottom of the water in which it has been boiled; vomiting, cramps, and the failure of the pulse is, perhaps, the most common succession; but the order is sometimes reversed, and violent cramps, with great and sudden prostration of strength are sometimes the first symptoms. The spasmodic affection of the muscles is sometimes wanting altogether. In others there is sudden and extreme prostration of strength, without, any of the symptoms of cholera, except, perhaps, a sensation of chilliness, troublesome flatulence; though, perhaps, these are rather to be considered as the symptoms of the first stage, manifesting themselves with extreme violence in constitutions debilitated by disease, and would, doubtless, if not promptly arrested, have been followed by the characteristic symptoms of cholera.

An impression prevails very generally that the symptoms of

this disease are more terrible to the spectator than they really are. It certainly is not necessary to add to the terror which its destructive character is but too well calculated to produce by exaggerated descriptions drawn from extreme and unusual cases.

In many cases, and those too of a violent character, there is very little complaint of pain, and the extreme restlessness and anxiety are often wanting, so that the patient lies as tranquil and composed as could be expected from a person laboring under the mortal symptoms of any other disease.

The third stage, or stage of reaction, we think has not been as formidable in this city as it has been represented elsewhere; the patients, after recovering from the stage of collapse, frefrequently convalescing without evincing any other token of the late terrible derangement of the system than debility, accompanied with slight general febrile action. The severity of the symptoms of this stage will doubtless very much depend upon the influence of causes of an accidental or constitutional character, tending to produce local inflammation, and hence are more frequently met with in persons of intemperate habits, or where the stimulating plan of treatment has been carried too far, or continued too long. The inflammatory symptoms are generally combined with, and sometimes concealed under, the symptoms of congestion. The prognosis, when the disease is established and its symptoms unequivocal, must necessarily be for the most part unfavorable. Few persons unacquainted with the disease could see a patient in a confirmed collapse, and not pronounce a recovery impossible. In the first stage the disease is perfectly under the control of medicine, and there is an interval in the gradation between this stage and that of complete collapse, in which, if the prostration has not come on very suddenly, if the treatment be prompt and judicious, the constitution vigorous, the pulse possessed of some degree of firmness, and oxygenized blood is still circulating throughout the vessels, there is a fair prospect of recovery, although spasms, rice-water discharges, with coldness, and corrugation of the extremities may all be present. The term cholera is so very indefinite, that from the loose reports made by medical men to *Boards of Health*, it is im-

possible to form any estimate of the comparative mortality after it has made its appearance with unequivocal symptoms. According to the principles of diagnosis established by some, certainly not less than one-fourth of the citizens of Cincindati have had the cholera. Upon data of this kind, 400 deaths out of 10,000 cases would not appear a very large proportion.

Treatment. It has been the practice in this, upon the appearance of any of the symptoms which we have enumerated above, as characteristic of the first stage of cholera, to confine the patient to his bed, to administer a dose of calomel and opium, five or ten grains of the former to one of the latter, and to promote perspiration by drinking warm tea with occasionally ten or fifteen drops of the spirits of camphor, the calomel is to be repeated in two or three hours, without the opium if diarrhœa is checked; and this at a proper interval, to be followed by some gentle cathartic as castor oil or the comp. symp. of rhubarb. It is necessary at this stage to administer the mildest cathartics, and to guard the patient with the utmost precaution against the influence of the external air, for if this latter precaution be omitted, the mildest medicine, even the opium and calomel appear to hasten the symptoms of the second stage.

These simple means have generally been sufficient to arrest the disease. In a few cases, symptoms of inflammatory action have been present, requiring an emetic or bloodletting; but in a much greater number of cases where serous diarrhœa has been present to any extent, a stimulating practice has been resorted to with unequivocal benefit.

Where the symptoms have been rapidly running into the stage of collapse, the treatment has been more diversified. The salt emetic, calomel and opium repeated every two or three hours until the diarrhœa is checked or moderated, when the calomel is given alone until bilious evacuations were produced, external heat, frictions, large enemata of salt water, and the following saline mixture:

Super carb. of soda, 1 1-2 drachm,
Muriate of soda, 1 scruple,
Chlorate of potash, 8 grs.—to be taken every hour,

have been principally relied on. Bloodletting was not attended with the same beneficial results here as in other places where the cholera has prevailed; on the contrary it disappointed our expectations in many cases which appeared to present indications very favorable for a trial of its efficacy, and we believe the great majority of the physicians in this city are decidedly in favor of the stimulating treatment where the discharges from the bowels begin to be alarming. Perhaps this may be accounted for upon the fact that the autumnal diseases of Cincinnati seldom bear depletion by the lancet to any extent. Cupping was always beneficial, either with or without scarifications, although we think the relief was more permanent where blood was drawn.

The most decided relief was obtained from the operation of the salt emetic, and under its operation the purple hue of the patient's countenance, could be seen to give place to the complexion of health. This relief, however, was temporary, and the remedy was often repeated with advantage after an interval of an hour or two. After the vomiting, the irritability of the stomach was, generally, so far diminished that small quantities of any liquid which the patient preferred could be retained.—The diarrhea also was frequently arrested.

Mustard cataplasms were too superficial in their effects, to be of lasting benefit, and consequently, after irritating the surface, we think a large blister should be immediately applied over the abdomen.

We would particularly recommend to the attention of the readers of our Journal the article of Dr. Hopkinson of Philadelphia, under the head of analectic intelligence, in the present number of the Journal, as containing the best view of the pathology and treatment of the disease we have met with.

F.

Miscellaneous Intelligence.

ANALECTIC, ANALYTICAL, AND ORIGINAL.

ANALECTIC.

1. *Wound of the Head.—Ball extracted from the Brain.*—"D. M. aged 27, a soldier in the service of Bonaparte, was wounded on the 18th June, 1815. After lying three days on the field without tasting food of any description, he was taken to a village, and afterwards, to one of the churches of Brussels, without any thing having been done for his wound. On the 30th, I sent him, with many others, to the Gens d'armerie Hospital, and on the 4th July, he was placed under my immediate care.

"A musket ball had entered at the anterior portion of the squamous suture of the right temporal bone, and, passing backwards and downwards, fractured in its course the parietal bone, and lodged itself in the substance of the brain. There was a considerable degree of tumefaction of the soft parts, surrounding the wound, but, with the exception of a slight headache, and partial deafness of the right ear, he seemed to enjoy perfect health. He slept well, his appetite was good, his belly open, his tongue clean, his skin cool, and his pulse 72 of natural strength.

"On the morning of the 5th, the wound was laid freely open, when three large and several small pieces of bone were removed; and the ball which was found lodged in the posterior lobe of the right hemisphere of the brain, where it rests on the tentorium, was extracted without difficulty, and with small portions of the substance of the brain adhering to it.

After the wound had been carefully cleared of blood and small pieces of the brain, its lips were brought together and retained by two ligatures, along with adhesive straps, compress, and bandage. His whole head was kept constantly wet with cold water, a brisk purgative was administered, and he was placed on a very spare diet, with a small allowance of ripe fruit.

"Under this management, (a laxative being daily administered) he continued free from pain, or any derangement of the system, until the 16th, when he complained of lancinating pains through the back part of his head, of uneasiness from the light of a candle, and from noise. The wound looked remarkably healthy, with only a small discharge

of healthy pus, and all that part which had been laid open by the knife was united. The pulsation of the brain could be readily discovered at two different points, where the large pieces of bone had been extracted. A brisk cathartic speedily removed these untoward symptoms, which there was reason to believe had been produced by some of his fellaw patients having indulged him with part of their allowance of food, the impropriety of which was distinctly explained, and means used to prevent the repetition of a similar irregularity. This, however, was no easy matter, as his appetite was keen, and he was confined to a very spare diet, viz. a small allowance of bread, with water whitened with milk, and sweetened with sugar.

"He now continued to enjoy his former good health, and nothing particular occurred till the 24th, when, on going my usual rounds, betwixt 10 and 12 o'clock, P. M. he called me, and said he was not well; the expression of his eyes was new and peculiar; and, along with the fulness of his countenance, evidently indicated a great and general irritation of the system. His pulse was, for the first time, 96, and hard; his skin hot and dry; along with a degree of stupor, and disposition to sleep. Upon making inquiry, I found that the medical officer (a young gentleman who had recently entered the service,) under whose care he had been placed for the last four days, had omitted to give him his usual laxative, and instead thereof, had that day allowed him *wine*, an *egg*, and other *extra articles*.

"A brisk cathartic was again immediately had recourse to, and after its operation a diaphoretic mixture, which, with a rigid adherence to his former mode of treatment, soon restored him to his previous state of convalescence.

"On the 5th of August, when I saw him for the last time, his wound was cicatrized. The pulsation of the brain was still visible, but with the exception of a slight degree of giddiness on stooping, he enjoyed perfect health. This he expressed by saying, that from his sensations he could not know that he had ever been wounded. It is proper to add, that, during the time of the above cure, he was allowed to smoke tobacco whenever he felt inclined, and which was almost constantly. It was never observed to produce any bad effect, and he argued the necessity of using it by saying, that it mitigated the otherwise almost irresistible urgency of his appetite, and thereby enabled him the more easily to comply with the very restricted regimen that was enjoined him, and which, as he was at length convinced, was essential to his recovery."—*Hennen's Military Surgery.*

2. *Wound of the Head. Severe Injury of the Head, with Loss of Speech and other Nervous Affections.*—Captain B——, a particular friend of mine, was wounded by a musket ball in the head at Waterloo, on the 18th of June, 1815. On the 19th, he was brought into the city of Brussels in charge of a medical officer, who gave me a most melancholy account of his case. On approaching the wagon in which he was conveyed, I was insensibly attracted to that part of it where he was stretched, by a low protracted moan, as of a person in extreme

pain, but very weak. On calling him by name, he sat up, caught me by the hand, which he kissed most fervently, pointed to his head, and then to the site of a former wound which he had received at the storming of Badajoz, in 1812, from the effects of which I had the good fortune to relieve him. He then burst into tears, but without having the power of uttering a distinct word. His countenance was pale and ghastly, and his mouth somewhat distorted; his eye languid, and suffused with blood; his skin dry, but cool; his pulse about 90, soft and compressible. As I found that he had been bled on the field, I found myself contented with providing him a billet, and giving him in charge of his medical attendant, with directions to examine the wound most particularly; to enlarge it if fracture to any extent appeared; to administer a brisk purge, and to watch most carefully the approach of inflammation. The wounded being now poured in by hundreds, I was unable to see him before the 21st; his case, however, was reported to me daily. Much coagulated blood, and some particles of sand on which he had fallen, together with a thin scale of lead, obviously a bit of split musket ball, had been removed. His pulse had risen on the night of his arrival to about 100, hard and bounding, and he had been copiously bled in consequence. A cruciform enlargement of the wound had been made, which bled copiously, and gave a view of an extensive fracture of the left parietal bone. On my visit I found him nearly as follows:—Countenance pale, expressive of great pain, referrible more to mental than corporeal suffering; mouth still distorted; eye sunk, but its pupil dilatable; the power of articulating any distinct sound lost, but the desire obviously strong; pulse 80, soft: tongue clean, bowels open, (by saline purgatives;) urine copious, and with a rose-colored sediment; skin moderately warm, and at the region of the liver bathed in sweat; the liver itself obviously projecting, and giving a painful sensation when pressed upon, evinced by his wincing from the touch.

On examining the wound of the head, I found an extensive radiated fracture, occupying almost the whole of the left parietal bone; at the centre there was a piece of bone, apparently the size of a musket ball, beat in through the membranes of the brain, and bedded in its substance, but considerably more toward the frontal region than the occipital. The unequal pressure I found to proceed from a musket ball which was wedged in between the displaced pieces of bone and the portion, which, though cracked, preserved its situation. The separated piece was obviously much more extensive on its internal face than externally, and could not possibly be extracted without the operation of trephining, to which I proceeded. The leaden wedge, and several loose splinters which jammed it in, were easily removed; and on making one perforation with a large trephine, I removed the depressed portion of the bone, which was forced into the brain nearly an inch and a half from the surface of the scalp. It was of an irregularly oval shape, about one inch long by half an inch broad, and fractured in such a manner, that the internal table formed a much larger part of its circumference than the external.

No relief followed the operation; he passed an extremely restless night, and the pulse rose so rapidly and so high, that the abstraction of 16 ounces of blood became necessary. His breathing during this momentous night became, for the first time, perfectly stertorous; and, when I saw him in the morning, his whole appearance indicated the most extreme danger. He lay *coiled up* in the bottom of his bed; the right arm stretched out, and occasionally convulsed; no exertion could get a sight of his eyes, or his tongue; the mouth was more distorted than usual; the skin was nearly as on the day of the operation, except that the partial sweating over the hepatic region was increased in profuseness, and he seemed to wince more on pressure at that part; indeed, all the sympathies seemed to be entirely merged in those connecting the brain and liver. The stomach participated remarkably little, for he had scarcely any vomiting. His pulse alone gave me some hopes; it was nearly natural. On addressing him, he made an effort to rouse himself, but almost immediately relapsed into his former state. I directed a strict watch to be kept over him, and as my duties called me again to that part of the city where he was lodged, I visited him about midnight and found that a spontaneous billious diarrhœa had come on, and that he was much more sensible. He made an attempt to articulate, and pronounced audibly the letter T once or twice. The next morning, being the 5th from the receipt of his wound, his general appearance was amazingly altered for the better, the diarrhœa still remained, and his efforts to speak were continual. On the sixth day he grasped my hand with great fervor, looked piteously in my face, and to my inquiries as to his feelings, he uttered audibly, though with much labor, the monosyllable "THER," to which, in the course of the day, he added "O;" and for the three next days, whenever addressed, he slowly, distinctly, and in a most pathetic tone, repeated the words, "O; THER: O; THER:" as if to prove his powers of pronunciation. His general appearance, during all this time, amended considerably, and my hopes now began to revive. I therefore resolved to write to his family, and, before doing so, I printed in large characters on a sheet of paper, the following words, "SHALL I WRITE TO YOUR MOTHER?" that being the wish which it appeared to me he so long and ardently had labored to utter. It is impossible to describe the illumination of his countenance on reading these talismanic words, he grasped my hand with warmth, burst into tears, and gave every demonstration of having obtained the boon which he had endeavored to solicit.

From this period his mental faculties gradually developed themselves; he regained a consciousness of the circumstances immediately preceding his wound, and, in succession, of those of a more remote period. The power of speech was the last which he perfectly regained, and for which he usually substituted the communication of his thoughts and wishes in writing. Throughout the whole of his convalescent state, melancholy ideas constantly predominated, although, previous to the accident, he had been remarkable for his flow of spirits. He returned to England, nearly recovered, on the 29th of September, or 103d day from the wound.—*Hennen's Military Surgery.*

3. *Wound of the Thorax.—Penetrating Sabre Thrusts.*—"George Harman, aged 33, now hospital sergeant of the 10th hussars, received a wound through the lungs from the thrust of a sword, in an affair with some French cavalry near Morales in Spain, on the 2d of June, 1813. The sword entered the thorax behind, close to the basis of the right scapula, about the middle of its margin, and the point came out on the edge of the sternum, betwixt the articulations of the 3d and 4th ribs of the same side. He immediately fell from his horse, and soon fainted from loss of blood. In a short time he recovered, and had power to raise himself, and to sit upon the side of the road where he fell. In his removal to the village of Morales, about one hour and a half afterwards, he again fainted from returning hæmorrhage. When he had remained quiet a short time, the hæmorrhage nearly ceased.

"I examined the wounds, (says Assistant-surgeon Rogers, who has favored me with the case,) and found that situated near the scapula rather more than an inch in extent; that in front was scarcely half an inch. On inspiration, the blood was thrown out from the posterior wound to the distance of several inches, in drops, so as to sprinkle my face when examining it; it was also forced out of the anterior wound in a frothy state; blood was thrown up by coughing, the pulse was barely perceptible; a cold sweat had broken out: he was extremely faint, felt great anxiety, and complained of much pain in the chest; no appearance of emphysema at either wound. The edges of the wounds were united with adhesive plaster, and covered with a compress of lint, and a bandage applied. This was about three o'clock. At six in the evening the pulse had risen a little, the pain in the chest had increased, but no farther hæmorrhage had occurred. At nine o'clock there had been a return of hæmorrhage, not very great, and it had now stopped; the pulse continued much the same. At six in the morning of the 3d, I found he had passed a very restless night, but without any return of hæmorrhage: his pulse was quick and small; pain in the chest remained the same; respiration more difficult. At nine o'clock no change of symptoms; the bandage and dressings had become loosened; no emphysema round the larger wound; the edges of the smaller one were rather puffed; but the little tumefaction which appeared proceeded chiefly from blood extravasated. The wounds were again dressed, and I left him in charge of Mr. Pulsford, assistant-surgeon of the 18th hussars, to be removed to the general hospital at Toro. He now (January, 1817,) feels no inconvenience on moderate exercise; but running or any violent exertion causes quick and painful respiration. I have one other remark to make on his present state. If the finger be applied to the site of the posterior wound, a singular vibration is very perceptible when he speaks, confined immediately to the spot. If it be argued that the sword did not penetrate through the chest, but that the wounds were by separate thrusts, I can speak positively to the contrary. This being the first time we met the French cavalry, curiosity led me forward with the squadron which charged. I was close in the rear, and saw this man wounded, ***after the enemy were broken,*** being scarcely twenty yards from him at the

time." So far Mr. Rogers; and I am myself enabled to add the following fact:—When I took charge of the hospital at Toro, on the 9th of the month, seven days after the action, I found Harman, who was an active acute man, giving every possible assistance to the other wounded, both English and French, and performing the duties of a hospital sergeant; no other dressing had been applied to the wound but a slip of adhesive plaster; and no morbid appearance whatever had taken place. He had suffered a convulsive fit of vomiting on two occasions after the wound was healed, without any apparent cause, in which he had ejected a large quantity of bile. He had another of these attacks some months after, when the diaphragm was severely affected with spasm; but his general health when I saw him a few months ago was excellent.—*Hennen's Military Surg.*

4. *Wound produced by the discharge of a pistol within the cavity of the mouth.*—M. de R——, one of the king's body guard, laboring under a severe gunshot wound of the face, was conveyed to the hospital of Gros Caillou, during the winter of 1815. This individual appeared to be dying when I paid him my first visit, twelve hours after the accident. A pistol barrel, loaded with two balls, applied to the palatine arch, and embraced within its circumference by the lips and jaw, was turned slightly forwards at the moment of the discharge, from which resulted a very violent explosion in the cavity of the mouth, and the escape of two balls externally through the arch of the palate and the nose. The anterior half of the former was destroyed, and the bony septa of the nasal fossæ, together with the part separating these from the cavity of the cranium, were broken into three pieces. The exterior surface of the nose was divided into three flaps, a middle one formed of its extremity, and the septum beneath, and the remaining two by the alæ of this eminence, and the corresponding portion of the lip. The middle of the latter was totally wanting, and a void space of about two inches in circumference existed; its edges were ragged and turned over. The velum palati and base of the tongue were cleft in a parallel direction from before backwards; and the left wall of the mouth presented an opening filled with coagulated blood. Every part of the face and neck was tumefied, and contained spots of ecchymosis, and vision was obstructed in both eyes, in consequence of the swollen condition of their lids. The remaining sensitive functions were also suspended. The pulse, almost entirely absent, was nervous, and the patient in a permanent state of convulsion and anxiety; in short, every thing induced us to fear a speedy dissolution.

It was, however, a matter of urgency to examine all parts of the wound, for the purpose of extracting foreign bodies, and simplifying it, as much as possible, with the view of causing the more or less exact reunion of its edges.

Having prepared suitable dressings, I proceeded, in the first place, to the removal of several bony fragments from the palate and nasal fossæ. Some portions of the edges of the wound were laid open, and

those parts removed which were irregular, or had suffered from attrition. I afterwards inserted eleven points of the interrupted suture, in order to reunite with accuracy the three flaps of the nose and the uneven and very widely separated edges of the upper lip, taking care to include in the middle part the under septum of the nose. Several intervening sutures were employed, in order that the most exact relation might exist in every portion of the wound. With the view of promoting the approximation of the two maxillary bones, I fastened a platina wire around the two canine teeth, where the loss of substance ceased. Two pieces of large gum elastic catheters were introduced into the nose, to the extremities of which I attached thread for the purpose of maintaining them in this position. These canulæ, while aiding in the transmission of air for the purposes of respiration, contributed greatly to the preservation of the form of this organ. Small graduated compresses, placed on its sides and in the canine fossæ, and bound down and sustained by a retentive uniting bandage, completed this difficult and tedious operation.

Scarcely was it terminated when the patient experienced relief, and the nervous symptoms, indicative of tetanus, were immediately allayed. I took advantage of this moment of calm, to place him in a warm semi-bath, and administered, by means of a sucking-bottle, cooling anti-spasmodic drinks containing ice. Deglutition was performed with extreme difficulty, but by dint of care and patience, it was gradually restored. The night was passed in a pretty tranquil manner; on the following day, however, febrile action, which may be called traumatic, was developed, together with symptoms of head-ache and approaching suffocation. The application of a dozen leeches around the neck, and cups with scarifications to the back of the same part and to the thorax was with eagerness put in practice; the patient was also bled from the foot, and the same drinks and purgative enemata continued.

All the symptoms were speedily dissipated, and the individual recovered the power of his senses, with the exception of that of smell, of which he is destitute. The dressings were not removed until the eighth day; the wounds had united very uniformly and almost entirely. Some adhesive straps sufficed for perfecting their cicatrization; but an abundant secretion of pus, followed by the exfoliation or removal of several splinters of the proper bones of the nose, the ossa turbinata and a part of the maxillary bone, hollowed out by the balls, took place from the interior of the nasal fossæ and the arch of the palate. The destruction of the osseous vault of the nose produced an increased flow of tears in both eyes, with fistula lachrymalis, caused by the displacement or momentary obstruction of the nasal canal. The use of the catheters, of which we have spoken, the daily replacement of the bony fragments near the root of the nose by means of a sound, and injections into the puncta lachrymalia with Anel's syringe, re-established the course of the tears, and the fistulæ disappeared. The two maxillary bones also gradually approximated each other, so as to obliterate the communication between the mouth and nasal fossæ, and to render

the possession of an *obturateur* by the patient unnecessary. In fine, after an attention of two months and a half continuance, M. de R—— was restored to his family in very good health, and without any sensible deformity.—*Baron Larrey's Memoirs.*

5. *Thoughts on Insanity.*—When the body is healthy and the mind sane, our beliefs, emotions, and actions are produced by mental processes, more or less complete in different individuals, but still in all by mental processes. We believe such a proposition because we have some evidence for it, good or bad; we experience angry or sorrowful emotions, because some thing irritating or depressing has occurred to our minds; we inflict punishment upon another from a vindictive emotion excited by a real injury; but in madness, these beliefs, emotions, and actions seem no longer to be the results of mental processes, but to be under the influence of a peculiar bodily state. I have conversed with those who have recovered from derangement, on the subject of their delusions, and have asked them what could have led them so firmly to believe such absurdities or impossibilities, what real or imaginary reasons they had; and they have told me that they had no reasons at all, that there was the thought in their mind, accompanied by the most undoubting confidence of its truth, but how it came there, they know as little as how it went away. Persons on the verge of melancholia will often declare that they are wretched, they know not why; that they have every thing to make them happy, and yet they feel no interest in life, a distaste for all their ordinary pursuits and pleasures, a wretchedness for which they can give no reason to themselves. In those extraordinary cases in which persons have committed murder on those who had never offended them, and towards whom they felt no antipathy, it seems that they were sometimes urged by some strange impulse totally different to the sense of injury, and thirst for revenge, which impels the sane man to commit such acts. If we are right in supposing that the instincts of animals consist of reasonable acts, not preceded by any reasoning process, but subservient to some bodily sensations in the animal, there would be a striking analogy between the two conditions, and insanity might be said to be the temporary conversion of human into animal nature. This has long appeared to me to be the most reasonable conjecture on this dark and mysterious subject.

It has been stated by legal authority, that to make out insanity, it is necessary to prove 'insane belief.' But what is the definition of 'insane belief?' Is it the belief of something either physically impossible, or utterly groundless and unreasonable? If so, it will apply indeed to the greater number of hallucinations, but will not reach them all.

I knew a captain of an East Indiaman who became deranged during a law suit about his father's will, and who believed that he had come

into possession of £100,000 a year; he spent money lavishly, drove about the streets in a carriage, with a mistress, told me that he should restore the feudal system in all its glory, offered to give me a pair of carriage horses, and at length went abroad to dethrone the Grand Sultan, promising that if I went with him, he would make me his Grand Vizier, and give me a magnificent seraglio. In this case the predominant notion was utterly groundless and unreasonable; but what shall we say to those cases in which the predominant notion is such, that it is more reasonable to believe it than to disbelieve it, or is an actual truth? yet such cases there are.

In religious melancholy the patient thinks that he is the object of Divine anger. In this case is the prominent belief utterly groundless and unreasonable? Christianity, as represented to us in the New Testament, clearly leads to the belief that only a small part of the human race is to be saved: consequently the chances are much against any particular individual, and I know few persons who have not reason to doubt whether they have ever attained that strength of faith, purity of heart, and entire repentance, which are held out as the necessary conditions of salvation. When we consider the certainty of death, and the magnitude of the question, it seems more reasonable to feel anxiety and even terror about it than indifference; yet experience shows that people, as long as they keep their sound senses, bear the thought with sufficient lightness for all the uses of this world. Dr. Johnson, who seldom touched any subject without lighting on the truth, perceived this, as appears by the following opinion recorded by Boswell. 'Madness frequently discovers itself merely by unnecessary deviation from the usual modes of the world. My poor friend Smart shewed the disturbance of his mind by falling upon his knees, and saying his prayers in the street, or in any other unusual place. Now, although rationally speaking, it is greater madness not to pray at all, than to pray as Smart did, I am afraid there are many who do not pray, that their understanding is not called in question.'

Here the insanity consists not in groundlessness and unreasonableness of the predominant belief, but in its affecting the mind in a different way to what it does that of sane persons. I attended a deranged laly, whose predominant belief was, that her husband was unfaithful to her; the notion, so far from being unreasonable, was, I believe true, and she had known it for many years without any unnatural disquietude, but now it engrossed all her thoughts; she neglected her ordinary pursuits, took a dislike to her friends, felt no interest about her children, and sat silent and motionless from morning to night. After continuing deranged several months, she recovered, although she still retained the same opinion. In what, then, consisted her insanity? not in the groundlessness and unreasonableness of the predominant belief, but in its withdrawing her attention from all other thoughts and pursuits, in its overwhelming influence over her feelings and conduct.—*Gooch's Midwifery.*

6. *Treatment of Gout.* Read before the Royal College of Physicians, in June, 1831, by Sir Henry Halford, President.—So much has been written on the subject which I lay before you this evening, that I feel as if some apology were necessary for taking up your time with remarks upon the gout. But I rest assured that you will receive in good part the result of my long experience in the treatment of that disease; and that if I state to you that there is no malady to which I am called upon to administer, that I prescribe for with so much confidence in the resources of our art, as for gout, formerly the opprobrium medicorum, you will give me willingly a few moments of your attention.

I will not dwell upon the various seats of gout in the human frame. For though the terms Arthritis and Podagra would seem to limit the malady to the feet and the joints, we have seen it in almost every part of the human system. There are those who believe that they have observed it in the eye. I have certainly seen it in the kidney, in the urethra, and prostate gland, and in the tonsils. One of our esteemed colleagues has suffered it there; and I remember an eminent physician in the country so harassed by it, and so disappointed by finding no effect from the most approved remedies for the Angina Tonsillaris, that at length he plunged a lancet into it; if, peradventure, there might be some deep-seated suppuration there, to which he should give an exit. No matter followed; but in a few minutes the gout attacked the ball of his great toe. The Angina was soon forgotten, and the new disease ran its course with all its accustomed severity.

With regard to the remedies for gout, my dependence is placed upon the colchicum. Under the common circumstances of an attack of gout in the extremities, I do not use it immediately, but wait a day or two, until the malady shall have fixed itself. I then direct the wine of the root, prepared according to the directions of the Pharmacopœia; and I do not hesitate to declare, that I have not known a single instance of any untoward effect from it. It often cures the disease without any manifest increase of any of the excretions. Sometimes it produces perspiration, and sometimes it acts as a diuretic—the two objects aimed at generally by a physician in the use of our common resources in the treatment of this disease, but so far is it from being prone to purge the body violently as the eau medicinale often did, that I find it necessary, in most cases, to combine a small portion of the sulphate of magnesia with the wine, in the draught in which I administer it. The formula which I have found most useful is a saline draught, with camphor mixture, a dram of syrup of white poppies, and from 35 to 45 minims, not more, of the wine of the root of colchicum at bed time; to be repeated in the morning with 25 drops only of the wine, and half a drachm of the syrup of poppies, and in this dose a drachm of the sulphate of magnesia. It is necessary to repeat these draughts for three or four successive nights and mornings, and to follow its use by a pill containing three grains of an acetous extract of the colchicum (made by evaporating an infusion of the root in vinegar), and one or two grains of the Pulv. Ipecac. Comp., and the same quantity of the

Extractum Colocynthidis Comp., and to terminate the whole by a mild purgative.

It has been objected to the colchicum, that it produces a temporary good effect only, and that the gout is apt to recur when treated with this medicine after a shorter interval than usual. Be it so for argument sake—yet surely the weight of three or four attacks of the disease, of three or four day's continuance each, not more, is hardly to be compared with the pressure of a six weeks' painful confinement in the spring, and one of equal duration at the latter end of the year, as was the case before the value of this remedy was known; the paroxysms, moreover, terminating often by distortion and disfigurement of the joints by chalk stones—an evil which is now prevented almost universally by that control which the colchicum puts upon the inflammatory stage of a fit of gout. But my experience will not admit it to be true that the disease returns more quickly. On the contrary, when the liquid preparation has been followed by the acetous extract, I think I am fully justified in asserting, that the disease is removed for as long an interval as usually intervened between the fits when left, as it was left formerly, to patience and flannel.

I am not rash and inconsiderate enough to recommend this mode of treatment to you as a specific system for managing the gout in all its forms, and under all the circumstances of different constitutions, which may present themselves to you. The formula will require to be varied occasionally, and it may be proper in many instances of an enervated state of the frame to re-invigorate it by a light preparation of the Peruvian bark, after the colchicum has done its duty—or in other instances to give two or three doses of the Pil. Hydrargiri at bed-time every night, in order to recall the bile into its proper channels, if the colchicum or the sedative with which it has been combined shall have produced ash-colored evacuations by the bowels, denoting an obstruction of the bile.

Of all the preparations of this valuable medicine, I prefer the infusion of the root of Sherry wine. A preparation has been made, and is in frequent use, in the manner of an infusion of the seeds in preference to the root; but this has appeared to me to be apt to create an insupportable nausea, such an one as I have seen follow Wilson's tincture for the gout, and the eau medicinale. When such an effect has once followod, it is in vain that you request the patient to have recourse to it again. He will answer you, that he would rather endure his disease in all its severity than subject himself to the misery of such a remedy. This answer I have heard given to a proposal to administer the digitalis, when it had once affected the stomach in this manner—even when it had in one patient evacuated water from the chest in three successive attacks of hydrothorax; and in another controlled a dangerous affection of the heart for several years. No—these patients both declared that they would rather die than swallow one dose of digitalis more.

Before I dismiss the subject of colchicum, I must add that the use of this vegetable in gout is by no means *new;* for it is recommended by

Alexander of Trallas, a city of Lydia, in the sixth century, as a remedy for this disease, not under the name of colchicum, indeed, but of hermodactlys. Now the hermodactyls and the roots of colchicum are the same, as you will observe by a comparison of the specimens on the table. Being anxious to obtain some hermodactyls, I availed myself of the good offices of one of the king's messengers, and purchased those before you, in the market at Constantinople. They appear to be the same vegetable root as Sir G. Blane has stated on the authority of Sir Joseph Banks; though our estimable colleague, Dr. J. A. Wilson, is of opinion that there is a difference between them. I have not yet infused them in wine, but intend to do so immediately, and to try their efficacy upon gout in the same manner as I have prescribed the colchicum.

But is it not enough to state what I have found the most easy and effectual method of treating a fit of the gout, unless at the same time I lay before you the manner by which I attempt to prevent an attack.

As to medicine, I have had, incomparably, the most satisfaction in giving a few grains of rhubarb and double the quantity of carbonate of magnesia every day, either at bed-time or early in the morning; or, under evident weakness of the powers of digestion, half an ounce of the compound tincture of rhubarb with fifteen grains of the carbonate of potash, in some light bitter infusion daily, before the principal meal. The coarser purgatives should be carefully avoided; as I have often known a strong dose of physic, as well as a bleeding, aggravate a mere slight indication of gout into a severe decided fit.

But the management of himself and of his habits, on the part of the patient, is of more importance in keeping off this malady than medicine. His diet must be restricted, and he must dine at an earlier hour than is the custom at present among the higher ranks of society; his exercise must be gentle, but regular; his mind must be kept free from solicitude and care; he must avoid intense study, and he must be chaste. The word which Pliny uses to express this item of precaution is a remarkable one, and, as far as I remember at this moment, peculiar to himself—it is *sanctitas*. He remarks of a friend of his, a martyr to the gout, that 'Pedum dolorem fregit abstinentia, et sanctitate.' This point of conduct may be thought important in the eyes of the Roman, in consequence of what Hippocrates has remarked in the 30th Aphorism of the 6th Section, relative to the non-appearance of gout before puberty, especially as his own Celsus had adopted and recorded the same opinion. Ea raro vel castratos, ve pueros ante fœminæ coitum tentat.

Be this as it may, I venture to say that the caution is worth observing; for nothing enervates the system so much as this indulgence, especially in excess; and an enervated state of the body is that which renders it most assailable by gout.

I have only to add, that I have seen the best possible effect, in a great many instances, from the use of the waters of Aix la Chapelle, in restoring the healthy tone to the knees and ankles, enfeebled or stiffened by repeated fits of the gout.—*Bost. Med. and Surg. Jour.*

7. *Case of Iliac Aneurism with Ligature of External Iliac Artery.*—The subject of this case is a young man twenty-eight years of age, of good constitution; and the accident as far as the patient could judge was occasioned by a strain. The aneurism was situated above Poupart's ligament, which was raised by the lower part of the tumour, and by its indentation seemed to divide it in a large and small portion, the latter being below, the former above, occupying, apparently, a space equal to the lower half of the external iliac artery, and being as large and as prominent as a good sized orange; the pulsation very strong and distinct. During the month of the preceding operation, the patient was bled three times, the pulse, however, remained generally above ninety and sharp. There was a slight bellows sound at the heart, but the arterial system in other respects appeared sound. The situation and size of the tumor preventing the usual operation from being attempted, and it being probable that the greater part of the external iliac, if not the whole, might be unsound, Mr. Guthrie decided on performing the operation, so as, if necessary, to place the ligature on the common trunk of the right iliac arteries.

Mr. Guthrie commenced the operation "by making an incision in the side of the abdomen, extending from about an inch within the ninth rib, and about one inch above the level of the umbilicus, to nearly an inch within the ileum. This incision was six inches long, and the integuments, superficial fascia, and the external oblique tendon, were divided as rapidly as possible, and the fibres of the internal oblique were fairly exposed: these, being of uncertain thickness, were next divided cautiously, until the tendinous expansion of the transversalis was brought into view, going to from the sheath of the ureters. The lower portion of this was muscular, but I divided the tendon immediately above this part very easily, introduced a director upwards and downwards, and cut the transversalis upon it in both directions. The peritoneum was now exposed, covered, however, still by the fascia transversalis, which in places fastened and bound it down so firmly as to require to be divided with greater caution by the knife and director. This obstacle being removed, the peritoneum rose and fell with the intestines on each motion of the muscles of the belly, showing how carefully the preceding steps of the operation must be done to avoid doing it an injury, which at this part might be fatal. I now separated the peritoneum from the fascia transversalis and transversalis muscle, and endeavored to pass my hand behind towards the spine, between the ribs and the ileum; but I found there was not quite room for it to pass easily: I therefore enlarged the incision as much downwards as the proximity of the aneurism would permit, and divided the transversalis tendon upwards for about half an inch more. As it was here very firmly passing across, I raised the part to be divided on my two forefingers, and desired an assistant to divide it with a pair of blunt scissors: in doing this, a small fold of peritoneum was caught and divided, to the extent of near a quarter of an inch. It was, however, out of the way, and my hand could now pass with perfect ease, although it required to be done with the greatest caution,

raising and separating the peritoneum before it, and passing over the psoas muscle, until my forefinger rested on the common iliac. It was only at this part of the operation that assistance could be given by any one: Mr. WHITE now, however, took charge of the bag of peritoneum containing the intestines, and raised it and them sufficiently to enable me to see the point of my finger resting on the vessel and on the bone beneath. I could now feel, and indeed see, the common iliac and its bifurcation into the internal and external iliacs, and it was as easy to have placed a ligature on any one as on the other of these three arteries, and more particularly on the common trunk. The external iliac appearing, however, to be sound, and of its natural size and appearance, an inch below the bifurcation, I cleared it with a blunt knife, and passed a ligature around it from within outwards, made of two strong threads of dentist's silk, well waxed. I then cut away one end, laid it straight, and allowed the peritoneum and intestines to fall back into their places. If I had a doubt about the soundness of the external iliac, I should have tied the common trunk; but as it was, and as I could with propriety place the ligature an inch below the bifurcation, I did it, and of course gave my patient an additional chance of escaping mortification.

"The wound was first brought together by three strong ligatures passed through the integuments, leaving the muscular wall to itself; and as these did not close the wound, four stitches through the skin, of a single thread each, were added in the interstices, which brought the edges of the whole line of incision into contact. The adhesive straps were then applied, and a compress was retained by other straps and a flannel roller. The legs were both raised by a pillow under the knees, the body bent, and the patient inclined towards the affected side.

The temperature of the limb previously to the operation, on Saturday, the 19th of November, was 102; the pulse ninety-two. On being put to bed, a hot bath was applied to the foot, and two persons were directed to rub the foot, leg, and thigh constantly under the bedclothes, which they did until midnight. At eight P. M., the pulse was 106, the temperature ninety-two. At 12 on Sunday, the pulsation of the femoral artery was distinguishable in the middle of the thigh, and he was free from pain in the limb, which I considered to be a most important sign of safety from mortification; for you may lay it down as a general rule, that, when a limb is going to mortify after such an operation, there is always great pain in the heel, calf, and even in the thigh, whilst at the same time there will be a mottled appearance of the skin, which, together, are the forerunners of an inevitable and generally fatal mortification. In the evening, the pulsation of the posterior tibial artery was just discoverable at the heel; and on the Monday, or forty-eight hours after the operation, I considered the danger of mortification to have passed by, and that of inflammation to have commenced. The pulse rose to 134, was jerking, but neither full nor hard. I had him bled to nine ounces, when the pulse diminished in volume nearly three-fourths, and he felt himself relieved from an

oppression he could not describe before. The abdomen was a little swelled and tympanitic, but not painful any where on a fair degree of pressure. An enema, with ol. ricini, was given, and repeated with ol. terebinth, with full effect. In the evening the pulse was 140 and very peculiar, there being seventy strong beats, and seventy short feebler ones following them; the countenance a little anxious. I had him bled, with my finger on the pulse, until twenty-two ounces were drawn, when he became faint, a profuse perspiration came over him, and the limb lost its temperature.

"I may say to you now, in regard to the abstraction of blood, that it was very desirable not to produce positive syncope, yet to go sufficiently near it to repress inflammatory action; for, if syncope had taken place, it is possible the limb might have been lost. I was guided by this in the different bleedings which he underwent during the eight subsequent days, until 107 ounces were taken away in all; the blood, until the last, being cupped and buffed, and firm in the coagulum.

"He was kept on four ounces of bread and tea only each day, for the first fortnight, and on eight ounces, with a pint of milk, for the second. The loss of blood was not sufficient, even with the starvation, to subdue inflammatory action, and he took colchicum and digitalis also, until the intermission of the pulse, on the 3d of December, warned me to desist from their use.

"The ligature came away on the twenty-eigth day. The violence of inflammatory action induced me to suspect a greater degree of inflammation in the coats of the artery than was compatible with safety; and the removal of the ligature gave me great satisfaction, in assuring me of the soundness of the upper portion: the lower one seems to have inflamed, and the tumor, it would appear, partook of it also; for, on the 13th of December, it was evidently softer, and increased towards the line of incision, into which it discharged itself the next day, being thereby diminished in size. It still continues to discharge itself in a similar manner, but is so much diminished as to be scarcely perceptible, and I have every reason to hope will become consolidated with the surrounding parts.

"The man is now taking porter, fish, and beef tea; sleeps well; is free from uneasiness; and, as far as the operation goes, it has perfectly succeeded; and will form, I presume, a precedent likely to be followed in all similar cases.

"It is especially very worthy of remark, that the peritoneum seems scarcely to have inflamed beyond that part necessary for the cure, and that even this was confined to the outside. It was the general inflammatory disposition which required a decisive treatment, and not the local, which never exceeded its due bounds. I have said, when writing on the operation for placing a ligature on the aorta, that it must be done in a similar manner; and when my finger was resting on the trunk of the iliacs, I felt confident that I could with ease have placed it on the aorta. I laid bare one inch of the vessel: many persons saw it at a distance in the theatre, and, as the vessel does not exceed two inches and a half in length in the person, it is plain that very

little more required to be done. I have no doubt but a further extension of the external incision for an inch upwards would have given quite sufficient space to have tied the aorta with ease; and I attribute the success of the operation on Hicks to the extent of the incision, which allowed of every step of the operation being done with facility." —*London Medical and Physical Journal, Jan.* 1832.

7. *Re-union of Divided Parts.*—Baron Larrey in his highly interesting volume of Surgical Memoirs, of which a translation has recently been published by Messrs. Carey and Lea, relates the following remarkable case of extensive division of the face by the cut of a sabre, and which was successfully treated by him. A Russian Colonel received from a French horseman "a stroke with a sabre, which cut off his nose at its base throughout its whole length. The instrument, being directed obliquely, had effected a division of the two canine regions, and two lateral parts of the upper lip, extending into the substance of the two maxillary bones on a level with the nasal fossæ. This division was bounded by the palatine arch, which formed a part of the flap, turned over upon the chin, and remaining adherent to the living parts of the face, merely by two small shreds of the upper lip, forming the commissures of the mouth. The entire extent of the nasal fossæ and the cavity of the mouth, without the alveolar arch, were seen on one side, and on the other, the flap formed by the whole of the nose, the upper lip, and the palatine vault, hanging over the chin. One of my pupils, finding this flap cold, and attached to the other portions of the face only at the two points, of which we have spoken, was proceeding to detach it entirely and dress the wound, according to the indications it presented, when I arrived at the bed side of the patient. I laid aside the scissors of the surgeon, and after examining the wound, arranged every thing for the purpose of employing the sature. I had some difficulty in removing the clots of blood which filled the nasal fossæ, and had been made hard by dust. I then detached the portion of the palatine vault, which adhered to the flap. It consisted of the anterior half of the superior alveolar arch. It had been separated from the remainder of the maxilla, on one side, between the canine and first molar, and on the other, between the first two molar teeth. I also detached from the flap several pieces of the proper bones of the nose, and ascending processes of the maxillary bones. The nose and lip were placed in their relative position, and I proceeded to re-unite them with the surrounding parts, by the interrupted suture, commencing at the root of the nose, and descending successively on its sides, the edges of which were approximated by ten parallel points of the sature. A piece of fine linen, dipped in salt water, was applied over the whole extent of the triangle, which was formed by the wound. I introduced into the nostrils two portions of large gum elastic sounds, for the purpose of preserving their form and diameter. They were commanded on the exterior by means of a a thread, which I inserted into their anterior extremities. Graduated compresses were placed on the side of the nose, and a retentive

bandage terminated the dressings. I had the satisfaction to learn, on my return from Moscow, that this superior officer had perfectly recovered without any deformity. The cure of this case is remarkable, on account of the seriousness of the wound, and the few vessels which kept up a communication between the flap and the integuments of the face. Vitality was restored to the nose, and its re-union with the edges of the wound was exact and perfect."—*Larrey's Camp.*

8. *Irreducible Hernia.* By Wm. M. Fahnestock, M. D.—We had an opportunity, a few days since, of examining a hernia tumor of very great size, and of *fifty-five* years standing, which may be interesting as another evidence of the adaptive powers of various parts of the system to endure new burdens, which nature or accident occasionally throws upon a part destined for other purposes.

M. Brim, ætat. 79 years, a revolutionary soldier, and now residing near Waynesborough, Franklin county, Pennsylvania, first perceived a small tumor in the region of the internal abdominal ring, after severe exercise and straining labor, in the Highlands of New York State, 1777, which increased very much, and descended during the hardships and severity of the winter at the Valley Forge and the succeeding campaigns which achieved our glorious Independence. It continued to enlarge though still reducible for *thirty* years, during part of which time he wore a truss, but has not been able to reduce it for nearly *twenty-five* years, and now presents a very enormous and heavy tumor, measuring from the abdominal ring to the symphysis pubis, *two feet two inches.* The protrusion is principally on the right side, and appears to be chiefly intestinal; the penis is entirely buried in the tumor, and only discernible through a patulous orifice about the middle of the upper surface near the left side of the tumor.

A very singular circumstance attending this case is, that the subject has suffered but little pain from it; no severe pain, colic, or any symptom of strangulation having ever occurred; he has at all times eaten every variety of food with impunity; is generally very comfortable in his evacuations, seldom costive, occasionally flatulent, which distends the tumor very much and produces some uneasiness, but is immediately relieved on taking some stimulating carminative cordial, which discharges the wind with great force and violent commotion in the bag. The greatest inconvenience he experiences is, to sustain an equilibrium in walking, from the great weight of the tumor, which constantly tends to throw the body forward, and particularly on rising from a chair. By sitting on the ground or floor so as to relax the tension of the sac, he can manage to protrude the penis about three-fourths of an inch, and pass the urine with ease, which otherwise would act as a great irritant and excoriate the skin. He is in every respect a comfortable old man, with a flow of spirits and good humor, and delights in nothing more than fighting over again the battles of the Revolution, and recounting the hardships which emphatically tried men's souls.—*Amer. Journ. of Med. Sciences.*

9. *Symptoms of Aortic Aneurism.*—"When an aneurism is buried deep in the chest, and not capable of being detected by the sight or the touch, it does not present a single general sign which is peculiar to itself, and, therefore, pathognomonic of its existence. There are even cases in which it occasions no functional derangement—no inconvenience whatever; and the first circumstance that unveils the truth is, the sudden death of the patient, while apparently in the enjoyment of perfect health. We have met with six or seven instances in which large aneurisms had existed without awakening even a suspicion in the mind of the medical attendant. One, in particular, eluded the penetration of a distinguished foreign auscultator, though he explored the lungs with eminent success. We are acquainted with only one general sign of aneurism of the thoracic aorta which is unequivocal and certain, namely, a tumor presenting externally, and offering an expansive, as well as heaving pulsation, synchronous with the action of the heart. Of the remaining general signs a large class are identical with those of organic disease of the heart, viz. palpitation, dyspnœa, cough, tendency to syncope, terrific dreams, starting from sleep, hœmoptisis, livid or otherwise discolored complexion, cerebral or hepatic congestions, serous infiltration, &c. This identity arises from an identity of cause; namely, an obstacle to the circulation, which depends either upon the aneurism alone, or conjointly upon it and a disease of the heart, to which, sooner or later, the aneurism almost invariably gives birth. It is obvious, therefore, that the signs of this class are equivocal. There are, however, certain other general signs which are more characteristic: yet these even are of themselves ambiguous and unsatisfactory: as they only bespeak lesions of the viscera, or derangement of their functions, but do not proclaim the latent cause of the mischief. But when they coincide with the signs derived from auscultation, they lose their ambiguity, and rise into real importance; for the two classes of signs, general and stethoscopic, are a commentary on each other, and reciprocally borrow a precision and certainty of which they are individually destitute. We shall succinctly describe the general signs to which we refer, and subjoin to each the principal sources of fallacy. The means of detecting the latter we shall point out in the final summary.

1. When the tumor has attained a considerable magnitude, the cavity of the chest is preternaturally crowded, and the patient complains of a sense of constriction, infraction, and oppression, but these sensations are common to almost all diseases of the chest.

2. The radical pulses are sometimes dissimilar, or one is extinct; an effect dependent on obstruction or obliteration of the arterial innominata, or left subclavian. But the difference of the two pulses at the wrist, may proceed from a variety of causes independent of aneurism of the aorta, as, contraction of the origin of either subclavian from osseous, cartilaginous, stetomatous, or other deposition: obstructions in the course of the artery, occasioned by tumors, wounds, subclavian aneurism, &c.: an irregular subdivision of the humeral, brachial, or radial artery. We have known the most ludicrous surmises occa-

sioned by the radial crossing to the outside at the middle of the forearm, and the superficialis volæ supplying its place at the wrist.

3. When the origin of either subclavian is contracted, the pulse at the corresponding wrist is a little later than the ventricular systole. We have not found this symptom uniformly present. The heart is more frequently its source than the aorta, and we have observed it to be most considerable in cases of regurgitation into the left auricle; but obstruction of the aortic valves may occasion it in a minor degree, particularly if this lesion is accompanied with extenuation or atony of the ventricular parietes. When the sign exists in both pulses, the presumption is strong that the source is in the heart.

4. According to Corvisart, a purring tremor—the *fremissement cataire* of Laenec—is sometimes perceptible to the hand at the middle or upper part of the sternum, and indicates aneurism of the ascending aorta. Purring tremor, above the clavicles, is an almost constant concomitant, and therefore a valuable sign, of dilatation of the arch; but, according to our experience, it is unfrequently and imperfectly occasioned by saccurated aneurisms, especially if lined by strata of lymph. We have never known the tremor to be occasioned below the clavicles by dilatation, unless the enlargement was so great as to extend beyond the lateral margins of the sternum, and allow the tremor to be felt through the intercostal spaces: but we have met with one case in which a dilatation of the pulmonary artery, though not voluminous, afforded a marked tremor between the cartilages of the second and third ribs of the left side: these, however, are not remarkable, as the artery *naturally* lies nearly opposite to the part described. We have never known a sacculated aneurism create a tremor below the clavicles, unless the tumor had eroded the bones of the chest, and presented externally underneath the integuments.

But the purring tremor may be occasioned in any part of the chest by mucous rattles, particularly those of the snoring kind, in the large bronchial tubes; and we have observed that, when derived from this source, it is a very common cause of deception, in reference both to aneurisms of the aorta and ossifications of the heart. Purring tremor of the pulse is regarded as a sign, though it is a fallacious one, of ossification of the aortic valves. From many dissections, it has appeared to us to be generally connected with two circumstances, viz. a powerful action of the heart, and ruggedness, without appreciable obstruction of the aortic orifice, or interior of the vessel. It, therefore, seldom exists, unless either the action of the heart be accelerated, or the left ventricle be hypertrophous.

5. When the trachea, or primary bronchial divisions, are compressed by an aneurismal tumor, a harsh wheezing, or sibilous sound, proceeding deep from the throat, characterizes the respiration, the voice is either croaking or reduced to a whisper, or it is a compound of both; the breathing is often extremely laborious; and when the heart is simultaneously diseased, dyspnœa sometimes occurs in paroxysms of the most suffocating severity. When the œsophagus is compressed, deglutition of solids is rendered difficult, and sometimes impracticable;

for the descent of the morsel excites an excruciating pain from the summit of the sternum to the spine, or lancinating deeply in every direction through the chest.

But compression of the trachea or œsophagus, with the above symptoms, may be occasioned by tumors of any description. Wheezing respiration may proceed from an accumulation of glutinous mucus in the great branches. We have likewise known it produced in an extreme degree by laryngitis with thickening of the soft parts covering the arytœnoid cartilages, and also by ossification and ulceration of the larynx from strumous, syphilitic, and mercurial disease. So difficult is it to distinguish the seat of wheezing respiration, that it has in many instances, been imputed to an affection of the larynx, when it was in reality occasioned by an aneurism of the aorta; and bronchotomy has several times been actually performed with the view of obviating suffocation.

6. When the vertebræ are eroded, the patient suffers an intense terebrating pain in the spine; and when the brachial plexus of the nerves is compressed by the tumor, an aching sensation pervades the left shoulder, neck, scapula, and arm, with numbness, formication, and impaired motive power of the limb. But I have met with cases in which nearly similar pains were experienced, although there was no destruction of the vertebræ; and it is common to hear individuals affected with rheumatism or spinal disease make the same complaints. The affection of the arm may be occasioned by various forms of organic disease of the heart, and it thus constitutes a part of that concatenation of symptoms which are denominated angina pectoris. We have likewise often met with it in hysterical females subject to palpitation, and occasionally in cases of pericarditis. In all these cases, the pain probably originates in the irritation of the cardiac plexus of the sympathetic, propagated to the brachial plexus.

7. When, in consequence of an adhesion between the aneurismal sac and the pleura, the blood plays upon the lungs, a sense of ebullition is said to be experienced. But the same symptom is familiar to individuals laboring under phthisis, or chronic mucous catarrh: and it proceeds from the successive bursting of large bubbles, formed by the transmission of air through the fluid in tuberculous caverns, or in greater bronchial ramifications.

8. It occasionally happens that the patient suffers excruciating pain from a spasm, pursuing the course of the diaphragm, and binding the chest around, as with a cord. This symptom is too vague to be important, and it also occurs in hysteria, gastrodynia, colic, spinal diseases, and rheumatism of the diaphragm.

9. A pulsation is felt underneath the sternum, or ribs, at the superior part of the chest. This, although one of the least equivocal signs of aneurism, is not without ambiguity. It may be occasioned by a tumor of any description, as an enlarged gland or a cancer, interposed between the sternum and the aorta, and receiving the pulsation of the latter. Even Dr. Baillie says, 'But we are not to conclude from this symptom (viz. pulsation at the superior part of the chest)

that there is certainly an aneurism. I have felt the same kind of pulsation in other cases; as, for instance, where the pericardium was found strongly to adhere to the heart; where there was a slight inflammation upon the surface of the heart, with a little more water than usual in the pericardium; and where a morbid enlargement had taken place in the heart, without any aneurismal swelling.' Every one much conversant with disease must have made the same observations.

10. A pulsation is felt above the sternum or clavicles. But this may be occasioned, 1st, by enlarged glands, or other tumors seated on the subclavian artery, and receiving its pulsation; 2d, by varix of the jugular vein at its junction with the subclavian; both of which conditions have deceived expert practitioners; 3d, by subclavian aneurism. This affection sometimes resembles aneurism of the aorta so exactly, that it is extremely difficult to distinguish them. Allan Burns records a case in which all the eminent surgeons of the district were unanimous in pronouncing the affectian subclavian aneurism, yet it proved to be aortic. Sir Astley Cooper has published a number of similar cases, and one is mentioned by Professor Monro tertius. 4th, a pulsation above the sternum or clavicles may be occasioned by carotid aneurism. This, also, may readily be confounded with aneurism of the aorta, or of the subclavian artery. In April, 1826, we saw a case at Guy's Hospital, which led to much deliberation respecting the propriety of taking up the carotid above a pulsating tumor, supposed to be an aneurism of that artery. It was finally decided that the tumor was too low, and the design was judiciously abandoned. The affection proved to be a dilatation of the aorta and arteria innominata. The carotid was sound. This state of parts was indicated to us by the stethoscope. Mr. Hodgson met with a similar case.

11. The superior and middle parts of the chest are dull on percussion. But this sign is common to an infinity of other diseases, and the resonance is seldom impaired unless the aneurism be very large."—*Cyclopædia of Practical Medicine.*

10. *Partial Fracture of the Long Bones in Children.* By J. Hart, M. R. I. A., &c. &c.—At length the silent city, for the silence of its university is typical of itself, has put forth a medical periodical. Yet the effort appears to have been a great one; and Medicine alone has not yet felt able to shake off the lethargic drowsiness which oppressed her, without the friendly aid of Chemistry. The journal which has just seen the light in Dublin, and of which the first number is now before us, is entitled, the Dublin Journal of Medical and Chemical Science. It consists of 116 pages, 56 of which are devoted to original communications—17 to bibliographical notices, and the remainder to articles of miscellaneous intelligence. Whether it is to be monthly, quarterly, semennial, we are not officially informed, nor strange to say, do we find the usual prospectus, which tells how much a publication is wanting, and how lamentably deficient all existing sources of periodical information are acknowledged to be. We hail with pleas-

ure our contemporary from the green isle, though, by the bye, its wrapper is of deep yellow, and need scarcely say that we wish it all success. It is at present too late to give an adequate notice of many of the useful papers it contains, and we must content ourselves with the first, because it is the shortest. It is on the partial fracture of the long bones, which is frequently met with in practice.

"The bones differ very much in the relative proportions of the animal to the earthy part entering into their composition at different periods of life, a circumstance which materially affects both their liability to fracture, and the length of time necessary for the accomplishment of re-union in individuals of different ages.

Thus, in infancy and childhood, the animal part of the bones bears a greater proportion to the earthy, whence they possess a greater degree of flexibility. It is owing to this that fractures rarely happen in young children, notwithstanding the many falls to which they are subject, before they have acquired the power of maintaining their equilibrium in their earlier essays in walking.

On the other hand, the bones of persons advanced in life, are harder and more brittle, in consequence of the accumulation of an increased proportion of the earthy part, to which is to be attributed the more frequent occurrence of fractures of the long bones in elderly persons especially.

As the bones of children are less liable to fracture from the cause assigned above, so is the process of their re-union more speedily accomplished, inasmuch as their growth being still in progress, the blood-vessels engaged in the function of their nutrition are in a more vigorous state of action; while in the case of older persons, whose bones contain a less proportion of the animal part, and more earthy or more saline constituents, re-union proceeds more slowly, because ossification being completed, the nutritious blood-vessels which were actively engaged in that process have fulfilled the task which was allotted to them, after which these vessels undergo a diminution in size, and a corresponding relaxation in their activity.

While the long bones of children are soft and flexible, they are still subject to a kind of injury, the occurrence of which is incompatible with the brittleness of the same organs in adults. This injury is a fracture which extends through a part of the diameter of the bone, the remaining part becoming bent in the manner in which a branch of a tree yields to an attempt to break it while it still retains its sap.

It has fallen to my lot to meet with five cases of this injury within the last three years, one of which occurred in the humerus, two in the radius, and two in the femur, and as this kind of fracture is not particularly described in any of our systematic works on Surgery, nor in any periodical publication to which I could obtain access, I shall briefly notice the particulars of one case, and conclude the paper with one or two remarks on it.

The diagnostic symptoms of this affection are very simple, they are the following: pain and a bent state of the bone injured, without absolute shortening of the limb; on the contrary, it is lengthened on the

side to which the ends of the fractured part of the bone project. By attending to these circumstances it will be always easy to distinguish this injury from ordinary complete fracture.

Treatment. The first indication in the treatment is to straighten the bent bone; to effect this, much care and delicacy of manipulation are required, for if it be rudely attempted with a force too great or too suddenly applied, the part of bone which was merely bent may be broken, and the fracture rendered a completete one, the difficulty of treating which without deformity, will obviously be greater in a child, than in a person who can understand the necessity of submitting to the restraint.

The next indication to prevent the occurrence of the deformity, and to keep the fractured surfaces in contact until they become united by callus, and this is to be fulfilled by the judicious use of splints and bandages, as in ordinary fractures.

I need hardly remark on the shortness of the time (eleven days) in which re-union was completed in the above case: it illustrates the principles laid down in the commencement of this Paper, which refers to the rapidity of the re-union of fractures in children, owing to the more active state of the vessels engaged in the business of ossification at that period of life."

We have seen many instances of such complete fracture, and, unless our memory greatly belies us, have related some in a former Number of this Journal, though we have not leisure to search for them at present. However, we have twice seen this accident in the clavicle, once in the tibia, twice in the femur. We would particularly direct attention to a modification of fracture, probably of this description, which occurs in the bones of the fore-arm. We have seen three instances of what we are about to mention. A boy receives a fall, and in endeavoring to save himself, the weight of the body is received upon the outstretched hand. He applies to the surgeon, with the bones of the fore-arm bent either towards the palmar or dorsal side. They are obviously curved, nay, they even form an angular projection, and moderate force is quite ineffectual in restoring them to their proper shape. In each case we put the fore-arm across our knee, used considerable force of the leverage kind, heard the bones give an audible snap, and immediately were able to restore the limb to its natural shape. Under the application of proper splints and compresses, applied as for fracture of the fore-arm, for the usual time, we always succeeded in preventing all deformity and inconvenience. We mention these circumstance to put practitioners on their guard, as we have seen unpleasant mistakes occur.—*Med. Chirurg. Rev.*

11. *Rupture of the Kidney.* By Mr. LAIDLAW, Middlesex Hospital—"October 11th, 1829. Alexander Elliott, a remarkably fine healthy young man, twenty-one years of age, while running at full speed, came unexpectedly in contact with the iron palisades of one of the squares, and struck his abdomen against them with such force that he was thrown to the ground with the shock he immediately got up, and not feeling himself, at the moment, much

hurt, walked home, a distance not greater than a hundred yards. Soon after he got home, he became very sick, and vomited, but did not consider it of much consequence, till about two hours afterwards, when, having occasion to make water, he found nothing but blood flowed from the bladder; and he then became alarmed, and procuring a coach, had himself conveyed to the hospital.

At the time of his admission, when I first saw him, he was pale, cold, and covered with a clammy perspiration; his countenance was anxious, and he was greatly agitated. Upon a superficial view, he appeared far more alarmed than injured. He complained of pain in the belly, particularly in the right hypochondriac region; his pulse was full and regular, at seventy-five. At his request some milk and water was given to him; but, immediately upon drinking it, he vomited it up. Twenty leeches were applied to the abdomen without delay. In the evening the symptoms became more alarming; the vomiting increased, and was accompanied with constant hiccup, which greatly distressed him, the pain in the belly was also much greater; he rolled about in the bed, was very irritable and restless; the anxiety of countenance was much increased, and the respirations were more frequent than natural: he did not complain when the abdomen was pressed with the hand. As he had not made water since his admission, I introduced a catheter, and drew off about ten ozs. of fluid, apparently chiefly blood, and directed that 15 more leeches should be immediately applied to the belly.

Upon visiting him early the following morning, (Oct. 12,) he said he was somewhat easier, but had passed a miserable, restless night, and had been greatly distressed by the constant vomiting; his countenance was still very anxious, and he appeared to be suffering a good deal from alarm and agitation. A catheter was introduced, and twelve ounces of bloody urine drawn off; this he said greatly relieved him. Towards night he became much worse; the belly was swollen and tense, and he complained of great pain upon the application of the hand; the vomiting was not abated, and it distressed him much more in consequence of the tenderness of the abdomen. It was found necessary to continue the use of the catheter, and the urine was deeply tinged with blood. Pulse small, sharp, and regular, its frequency not increased; tongue natural; skin hot and dry; and he complained of great thirst, which could be only partially allayed by moistening his mouth, as every thing he swallowed was instantly rejected. R. Hydrarg. Submur, gr. ij.; Pulv. Opii. gr. ss. statim. Haust Potassæ Citrat. quarta quaque hora.

For several days after the last report, every thing appeared to be going on favorably, and he seemed to be getting well rapidly, when suddenly, on the evening of the 21st October, he became much worse; his skin again became hot and dry; his tongue parched, and covered with a brown fur; and the anxiety of countenance, which was so apparent at first, had again appeared; he complained of great pain in the right lumbar region; the pulse was full and frequent, but regular. As his bowels had not been opened during the day, an enema was order-

ed, and he was directed to take the following powder every four hours: R. Pulv. Rhei, gr. v.; Hydrarg. c. Creta, gr. iij. M. fiat pulv.

On visiting him the following morning, (October 22,) I found him in less pain than the preceding evening, but the other unfavorable symptoms were unabated. In the course of the day he had a severe shivering fit, which lasted for several minutes, and the pulse became very small and quick. Upon examining the belly, the part originally injured seemed to incline to the side, and appeared to contain fluid. He was directed to continue the medicines and to have hot fomentations to the belly.

He continued in nearly the same condition during the following days (October 23d and 24th), appearing only to get a little weaker; but on the morning of the 26th, it was evident that there was no hope of saving him, as he was sinking rapidly. He complained of no pain in any part; he was perfectly sensible and collected, frequently saying that he had made up his mind to die; his countenance was sallow and very anxious, and he appeared to breathe with great difficulty; the pulse was too quick to be counted; the tongue was black and dry, and the skin hot, and without the slightest moisture. He fancied he should like some soda water, and it was accordingly given him, with small quantities of wine occasionally. At seven o'clock in the evening he died, having survived the accident just fourteen days. The body was examined eighteen hours after death. Upon opening the cavity of the abdomen, the intestines appeared of a dark sooty color, which was all that was remarkable in them. The whole of the solid viscera were in a healthy condition, with the exception of the right kidney, which, as had been anticipated, was found to be the seat of the mischief: by the injury it had been broken across just below the pelvis, and in it and the surrounding cellular membrane, a large abscess was formed, which contained about three pints of fluid of a light brown color: this was supposed to be pus mixed with urine."

This is a very interesting case in several points of view. It displays the series of symptoms which might reasonably be expected to follow a rupture of the kidney, and may afford a hint on the treatment most consistent with facts and principles. The general symptoms, in the first instance shewed that an important abdominal viscus was injured; the bloody urine told which that organ was. The earlier symptoms were restlessness, pain, not obviously and decisively increased by pressure on the abdomen, vomiting hiccup. What did they indicate? Commencing inflammation of the peritoneum? No, for the symptoms occasioned by the latter, which, to instance the most analogous case, we see after ruptured liver, intestine, or bladder, differ in many respects from the preceding. They indicated the injection of the cellular membrane around the kidney with blood and urine, and the inflammation thereby induced in it. The inflammation was in some measure checked, but on the 10th day other symptoms were developed; pain in the lumbar region, anxious countenance, typhoid fever, rigor, the almost unerring indications of the formation of matter. He died,

and urinous abscess was found to exist in the cellular texture. Here, then, we see that in all injuries of parts surrounded by abundant cellular tissue, the great dangers to be apprehended are, the diffuse inflammation and the formation of matter, and that the latter may occur when the patient appears to be doing well, and the incautious practitioner is off his guard. We do not approve of the permission to the patient to drink milk and water immediately after the accident. If there is any one point on which we should be more particular than another, in cases of rupture or injury of the abdominal and pelvic viscera, it is the prohibition of both liquid and solid, food and physic, as far and as long as possible. We have had the treatment of many of these cases, and we were always most successful, in proportion as we strictly adhered to this maxim. We always endeavor to make the lancet and leeches supersede all other means for the first two or three days.—*Ib.*

12. *Cholera at Paris.*—The cholera is usually represented as having broken out unexpectedly and suddenly at Paris on the 26th of April last. This is not altogether correct. "Of those physicians," says the editor of the *Gazette Medicale*, "who unprejudicedly observed the development of the reigning constitution, there is not one who did not foresee and almost determine the precise period of the appearance of the cholera. It is especially permitted for us to say so, since, in June last, we pointed out the prevailing constitution as one of the forerunners of the epidemic. The disease was regarded by us as a necessary and inevitable consequence of the elements which we indicated. We will go further, we have had in our possession for at least three months accounts of several unquestionable cases of cholera, occurring under the observation of men of education and of unimpeachable veracity; but the fear of alarming a population already exceedingly uneasy, induced us to preserve silence until the disease has become more completely developed. This development it has attained with great rapidity. Since Monday, March 26th, the period at which the first well attested cases are said to have occurred, the disease has been going on increasing by tenfold."

Between the 26th of March and the 20th of April, 10,476 persons died in Paris of cholera; and it is said that upwards of 30,000 persons were affected with the disease, not including those who suffered from slight symptoms, evidently depending upon the epidemic constitution; as diarrhœa, borborygmi, cramps of the stomach, pains in the legs, followed by debility, &c.

The disease first appeared in the most crowded and filthy part of Paris, though eventually few or no parts of the city appear to have escaped its ravages, and its earliest and most numerous victims were the wretched inhabitants of narrow, filthy alleys, worn down by misery, debauchery, and privations of every description.

The following summary and treatment of the symptoms of the disease, which we translate from the *Archives Generales* for May last, is said to be the result of the examination of 6,094 patients admitted into

the various hospitals of Paris, between the 1st and 18th of April. Of the number just mentioned, 3,673 died; 1,595 were discharged cured, or perfectly convalescent, and 873 remained under treatment.

"Symptoms. *First Stage.*—The individual, if at the time in good health, is seized with diarrhœa; this occurs in some instances very suddenly, the discharges being copious; in other cases the diarrhœa creeps on slowly. There is little griping, and no tenesmus. Soon after the liquid discharges from the bowels take place, a sense of weakness is experienced in the lower extremities, which is sometimes scarcely apparent, while in others it is so great, that the patient cannot account for the feeling of exhaustion so inexplicable by the symptoms under which he labors. Syncope is threatened on every movement of the body. In some cases there is an intense pain of the forehead, the peculiar character of which, the head appearing as it were constricted, and which causes to the patient great inquietude. By degrees anorexia comes on; nevertheless, in many cases, the individual is yet capable of following his customary occupations—frequently, also, the above symptoms, in persons of an energetic or careless disposition, attract little attention, and this leading to a false security, causes serious injury to the patients. This first stage of the disease continues one or two days, and frequently longer, extending sometimes beyond a week, and causing the utmost debility. It is very generally present, and is easily treated.

Second Stage.—This is marked by cramps in the limbs and vomiting. The stomach discharges, first the food contained in it, bilious matters are then thrown up, afterwards those of a serous character, which become mixed with whitish flocculi, giving to the discharges the appearance of rice water, or of gruel. The discharges per anum present similar appearances—at first solid, they quickly become fluid, bilious, serous, and finally are composed entirely of a sero-mucous liquid of a whitish color. So similar are the stools in appearance to the discharges from the stomach, that it is impossible, at first sight to distinguish one from the other. They have always a peculiar smell, which is acid, but at the same time sickening, and readily recognized when once perceived. It has some analogy to that of the vapor of iodine, or of chlorine. The sweat of the patient seems to present the same odor, and which, in the absence of other symptoms, is sufficient of itself to present the diagnostic. The discharges from the stomach are more or less constant and abundant. To these succeed cramps, affecting successively the feet, hands, legs, and arms—they invade even the trunk, simulating pleurodynia, partial peritonitis, and more frequently lumbago. The more violent and general they become, the greater is the danger of the patient—the exceptions to this statement are extremely few. The pulse increases in frequency, being from one hundred and twenty to one hundred and thirty in the minute; the extremities become cold, and the arteries lose their normal tension—the blood which flows through them scarcely distending their parietes. The secretions are suppressed, or at least they are suspended; the respiration is laborious, sometimes more frequent, and at others slower;

but there is constantly a sensation of suffocation, produced by the constriction of the base of the thorax. The patient is restless, agitated, frequently prognosticating his speedy dissolution. The intellectual functions are unimpaired. The features of the face become sharpened, their ordinary expression is entirely destroyed; the eyes are bright, and the tongue pasty.

"*Third Stage.*—This is the stage to which the term *blue* has been applied, from the circumstance of the face and extremities assuming a bluish venous and very peculiar tint. To the phenomena of the preceding period, succeed now an extreme exhaustion; the skin becomes of a violet hue, the pulse extremely weak, frequently even entirely ceasing in the radial arteries. The respiration is deep and interrupted; the breath is cold, and has the peculiar odour already alluded to. The voice, which had exhibited some degree of alteration during the preceding stage, becomes now extremely feeble, frequently inaudible. The intellectual faculties still remain, nevertheless, the patient exhibits a carelessness or an apathy almost complete. The force and frequency of the cramps diminish; the evacuations from the stomach and bowels are less frequently repeated, the skin is bathed with a clammy sweat, and completely cold; the tongue itself is cold; the eyes half opened, present a bluish color, and ecchymosis, as it were of the inferior part of the cornea and conjunctiva; the pupil becomes dilated, the nose contracted; the face assumes a cadaveric appearance, and the limbs become stiff like those of a corpse. The skin is dry, and no longer presents its usual elasticity, so that a fold made in the skin of the neck or chest, remains permanent. During this period the patient dies without convulsions, or any apparent pain, and more frequently without the knowledge of those who surround him, so insensible is the transition from life to death, and so strongly does the living patient resemble the corpse.

"*Fourth stage.*—Re-action sometimes occurs spontaneously, as we are informed by physicians who have seen it in patients left entirely without medical aid. To produce re-action should be the aim of the practitioner, for it indicates a tendency to a favorable termination. The pulse regains an increase of strength, and re-appears in the extremities; the coldness of the surface is diminished; the skin loses its violet hue; the conjunctiva becomes injected; the voice becomes more sonorons; the tongue and breath acquire their usual warmth; the respiration is more frequent and easy. A hiccough sometimes occurs, as though the diaphragm, in resuming its functions, experienced a difficulty in their proper execution. There is no longer either diarrhœa, vomiting, or cramp. Frequently, also, as the circulation becomes more free and vigorous, congestions of the brain take place; the head becomes red, and the patient may then sink rapidly. In other cases the only degree of re-action is of a more natural character, and the recovery of the patient is more speedily accomplished. Such is the general course of the cholera morbus as it presented itself in Paris. Many varieties, however, were observed in its phenomena, referable to the particular condition of the patient's system. Thus, in children,

females, and very irritable persons, a form of cholera was observed in which the nervous symptoms predominated; the cramps were attended with true convulsions; symptoms were even observed which simulated tetanus; during the paroxysms of which the patient expired. In plethoric subjects, with large and robust bodies, the inflammatory form of the disease manifested itself more frequently; the tongue was red and irritated, the epigastrium was the seat of acute pain; there was violent fever, very copious vomiting; insatiable thirst, and other symptoms demanding evidently an antiphlogistic treatment. In other instances the asphyxial type predominated—the blueness of the skin occurred from nearly the commencement of the attack, and the death of the patient took place often very promptly.

"TREATMENT.—Notwithstanding all that has been said upon the existence in cholera of a gastro-enteritis or gastro-cephalitis, it is certain that in many cases, even of the most violent character, not the least morbid appearance is discoverable throughout the whole digestive tube. Sometimes we find in the small intestines a number of either isolated and tolerably prominent follicles, or of celulated patches, having the same appearance as those found at a certain stage of ordinary typhoid affections. In some cases, much more rarely, we find traces of gangrene in the mucous membrane, or black spots which exhale a decidedly gangrenous smell. MM. Renauldin, Martin Solon, Andral and Louis have met with these morbid appearances in several instances. They are nevertheless exceptions, and cannot serve as a basis, upon which to found a correct idea of the etymology of the disease. What seems more evident is the alteration of the blood. The proportion of free carbon being double, and that of the coloring quadruple, to what they are in a state of health. The aqueous, albuminous, and fibrinous portions of the blood are almost entirely wanting—in consequence of which it assumes the pitchy consistency so frequently mentioned. If this, which is evidently the essential morbid change, be made the basis of the etymology of the disease, and consequently of its treatment, it may be demanded what relation does there exist between the affection to be removed and the remedies employed to that end. In the first period, when the digestive tube appears to be the principal point of fluxion, it is all important to oppose this congestion. Of course, local bleeding and soothing injections are indicated. Some practitioners have employed other means; they have given ipecacuanha, and produced, in this manner, a sudden impression upon the whole intestinal tube. This shock has been salutary in a great number of cases; but it should not be concealed, that in other instances it appears to have had an injurious effect.

"In the second period, the internal congestion is more extensive; it already impedes the play of many of the functions, and the necessity of directing our efforts to its removal, increases rapidly. We may yet bleed if the pulse continues, and the patient is robust. Antispasmodics and hypnotic remedies, capable of arresting the progress of the nervous affection, which is now added to the first should likewise be administered. Iced drinks, even ice itself, are a very excellent means

for arresting the vomiting. Injections, decidedly astringent, will succeed also in arresting the diarrhœa, and preventing that exhaustion which so rapidly follows discharges from the stomach and bowels. The administration of ipecacuanha even in this stage of the disease, has appeared to be attended with good effects, in bringing back the natural secretions to take the place of those produced by the morbid stimulus. Under the effects of an emetic of this substance, the bile has been known to be copiously discharged; the white matter of the dejections to be diminished, and shortly to disappear; the bladder to become filled with urine, and the cramps to cease.

"With respect to the third period, a new order of phenomena predominate. The coldness of the extremities, the feebleness of the respiration, the diminished action of the heart, all indicate a complete perversion of the functions of the organs. Even supposing, that during the first stages of the disease, some portions of the mucous membrane of the digestive tube should become the seat of a slight phlogosis, it does not follow, that this should demand the entire attention of the practitioner, now when life itself is on the point of ceasing, and the actions of all the principal organs arrested. Under such circumstances the subtraction of a small quantity of blood, is to say the least, useless, the impulsive power of the heart being almost destroyed, and the quantity of the circulating fluids greatly diminished. Our efforts should, therefore, be directed to the organs which are still capable of feeling the influence of the impressions we desire to make upon them —the stomach, in this case, is one of the points the most accessible to our remedies. The most diffusible stimulants, as ether, ammonia, &c. will now be found to produce salutary effects, and give to the patient some chance of recovery. Even at this period vomits have been administered, and the spinal marrow has always been strongly stimulated. These two means have had the effect of rousing the nervous influence on the point of disappearing—of calling back the powers of life, and of producing re-action. It will readily be perceived that a crowd of analogous measures are all equally calculated to produce these important results. We must say, however, that in this stage the chances of success are but trifling.

"Re-action once attained, we have to watch its progress and obviate any morbid effects it may occasion when not maintained within due limits. The convalescence from cholera is long and painful. It requires a constant watchfulness on the part of the practitioner, and the utmost docility on the part of the patient. It is unhappily too true, that a great number of patients recovered from an attack of the cholera, but too soon abandoned to themselves, have from the errors in regimen they have committed, been suddenly destroyed. The extreme debility which succeeds to the enormous discharges that take place in this singular disease, predisposes to serious organic affections— the most trifling pneumonia will in an instant become mortal—the slightest irritation of the stomach, will be at once accompanied with all the symptoms which characterize the typhoid diseases, and the patients sink the more quickly, as the plan of treatment proper in the

latter affections cannot be put in practice in persons so completely exhausted."

13. *Remarks on the Pathology and Treatment of the Disease termed Malignant Cholera.* By J. P. Hopkinson, M. D.—"I saw no marks of inflammation except in cases of drunkards, or where it had probably existed antecedent to the attack of cholera; in one case inflammation was found in the caput coli; in another, the rectum was most violently inflamed, and sometimes the glands of Peyer were enlarged, but these appearances were by no means so general as to justify any conclusion as to their connexion with the immediate cause of death. Dissection had not as yet satisfactorily located the disease in the central nervous system. The lungs were almost universally healthy, and thus the abdomen alone remained to be studied in our pathological researches. As already stated no decided marks of inflammation presented themselves in any of the abdominal viscera—adequate to account for the sudden death, nor in fact are the symptoms during the course of the disease those of inflammation—but more of this presently. The appearance of the intestines externally is so peculiar, that no one who has once seen them, can be deceived. In every case I have examined, the most decided proofs of universal congestion were apparent. When the omentum was raised, the intestines, (generally congested,) presented a mottled surface formed of small bluish and red points, the former preponderating, so as to give altogether a dark chocolate appearance—a closer examination traced the connexion between these specks and the veins—of which the small ramifications, the branches and the trunks, were filled with dark blood. The mucous surface was more variable in its appearance. The valvuli conniventes being in some places of a bright red—in other places pale. *Ulcerations,* or *settled inflammation* I did not find in any case in the intestines. The inspection of the stomach was equally unsatisfactory, or perhaps more so. In some cases inflamed, in others not, sometimes having a soft mucous surface, easily scraped off, while in others again, this membrane retained its ordinary degree of firmness; in one word, the stomach, in this respect presented nothing I had not often seen, and what dissections made in various diseases do not reveal every day. The only condition at all general, was a congestion of the veins apparent on the external surface, and its being exceedingly large, flabby, and filled with fluids. The liver, kidneys, &c. although sometimes congested with dark blood, or perhaps disorganized by some old affection, showed no marks of recent organic disorder that were appreciable; bile and dark blood sometimes flowed when incisions were made into the liver, and there was invariably a total suppression of the secretory action of the kidneys; when the papillæ of these glands were compressed, a milky fluid exuded from the orifices of the tubuli uriniferi. The bladder was empty and contracted. The spleen had nothing remarkable in its appearance: there was no bile in the intestines.

Thus it would seem, since the morbid conditions of the nervous

system are too abstruse for our detection, that nothing has been gained by the postmortem examinations, if it be not that a universal venous congestion pervaded the whole abdominal cavity, accompanied by a suppression of the natural secretions. It then appears probable, that the cause of cholera, whatever it may be, by diminishing the heart's action, and thus lessening the activity of the arterial circulation, and by producing a torpid venous circulation, perhaps the result in part of the former, perhaps produced by the direct observation of some morbid poison on the nerves, operates mainly upon the abdominal viscera; here it is, as we know, that the proximate causes act in bringing on an attack; and here it is we find developed the most prominent symptoms.

Now let it be understood, that although this pathological view became the foundation of the practice hereafter to be explained, it is not put forth with so much confidence as to limit further researches into the nature of this strange affection. One thing only is insisted upon, that, whatever the remote cause be, that at this particular time, in some circumscribed locations, and not in others, predisposes to the disease termed cholera; the most prominent symptoms are developed in the abdominal cavity, and to that point must we turn our attention, would we arrest the approach of death. The coldness of the extremities, therefore, the profuse sweats, the cramps of the muscles, the cold tongue, the immoderate thirst, &c. are not to be regarded, except as mere symptoms remotely connected with the morbid actions that are going on in the interior of the body.

A natural consequence of diminished arterial circulation is diminished temperature—but if the cause that produced this feeble action still continue to operate at the centre, how vain must all efforts to arouse action be, when applied to the extremities.

Again, as regards the thirst, since there is neither increased heat nor dryness of the mouth, upon what reasoning or theory do we allow the patient the free, unrestrained use of ice or cold drinks. Is it because he demands them? and is nature always so true in her requests, that we should listen to her. Our patient may be indulged, perhaps, to his detriment; I have known the water and melted ice, that have been allowed to a patient at intervals during the space of an hour, to be thrown up from his stomach *nearly as cold as they went down.* There cannot therefore, be much increased heat in the gastric organ, and we have a right to conclude, that the effect of cold and moisture is not demanded, since evident *coldness and moisture* actually exist in the mouth, and in all probability the stomach is in a similar condition. To those who are disposed to doubt the correctness of the theory here advanced, and who, bound in the chains of former doctrines, cannot give up the impression of an augmented temperature in the stomach, causing the thirst—to all such, let me here make one remark—what is the actual condition of the patient's skin? and what are his feelings connected with that condition? Cold and wet, is the reply to the first—and insufferably hot, answers the second. Have we not then before our eyes, and under our fingers, a cold, moist skin, giving the sensa-

tion of oppressive heat?—a phenomenon as yet not understood, and must we of necessity reject the same idea as applied to the stomach; merely because we cannot explain it? Look at the collapsed, dying individual, with a skin like marble, covered with the morning dew—what are his sufferings if attempts are made to confine him under covering? Does he not resist with all his strength, and cry out he is burning with heat? With this fact before me, I am content to say, there is a total destruction of all the natural sympathies in this disease, and referring the thirst, the cramps, and the feelings of heat, to morbid nervous actions, stop my speculations here, and follow that practice which experience proves most beneficial.

The profuse sweats can hardly be called either a secretion or an excretion. Our knowledge of the capillaries is as yet too unsettled to establish any theory upon this point; but when we see those parts of the body most remote from the centre of the circulation, and most deficient in arterial circulation, pouring out these sweats more abundantly as they are more distant, is not the conclusion warrantable that they are a kind of exudation, coming perhaps from the veins, (which are visibly more congested in the same ratio of distance from the heart,) and not the result of any arterial excitement? Let us now only transfer our attention to the interior of the body—let us admit a condition of the alimentary passages, similar to that remarked upon the skin, and have we not at once, an explanation of the immediate cause and source of the rice water discharges? Here then we unite the various considerations that have become the basis of our pathology and our treatment of cholera.

The cramps cannot be easily explained. I feel a hesitation in offering a theory upon the subject, and shall defer any further remarks respecting them for the present.

Allowing the cholera to be a disease of a typhoid character—grant it to be connected with an almost universal congestion of the venous system, and not inflammatory, what are the indications? These appear to me to be several and distinct, and that the whole success of our practice will depend upon the manner and the order in which they are met. Let us first review the symptoms of a man in the state of collapse. He is either pulseless or nearly so. The extremities are icy cold, and checkered with large spots of limpid water, collecting as fast as they are removed; the fingers corrugated, the nails blue; the tongue and breath chilled, and the thirst painfully urgent. To these add in most cases violent cramps of the voluntary muscles, purging of an almost colorless fluid, and the rejecting from the stomach of every thing swallowed. Apparently the cold extremities, the vomiting and the cramps, are the most urgent, and therefore the first to be removed, and hence hot applications, frictions of various kinds, anti-emetics and opium, seem so natural a prescription, that it is difficult to resist their employment. The real disease is not studied; the symptoms alone lead every one astray. To relieve the spasms and check the vomiting and purging, nothing is more natural than large doses of opium. To restore the temperature of the skin, cold and damp, who

would not resort to heat and stimulating frictions? The want of success in this treatment leads to the *trial* of something else, combining perhaps some one of those remedies, (generally opium,) or else excluding them all, and standing forth with all the presumption of a specific.

Let us now take up the indications under a different view of the disease. Supposing the venous congestion be proved to be the immediate cause of those symptoms, viz. that the morbid cause having diminished the power of the heart, (whether through the nervous system or not, we need not stop to inquire,) the arteries as a consequence carry less blood than usual, must not the remote parts of the body, under such circumstances, first feel the want of their accustomed supply? The coldness of the skin then is merely a symptom, an inevitable consequence, and as such it should not be regarded in our treatment. Again, grant that a diminished arterial circulation throughout the abdomen, produces there a state of things similar to what is witnessed without, ought not the same results to ensue, namely a diminished temperatnre, a loss of tone, and suppression of natural or healthy actions? How futile then all attempts to arrest the vomiting and purging, by ordinary means, such as opium, &c. These symptoms are merely the natural results of the grand cause that is still triumphantly operating, and if they, as such, are permitted to attract our attention, are we not thus decoyed away from the main object? If this position be true, the rice water discharges pouring from the rectum, and the fluids thrown from their stomach, are worthy of no more particular attention than the dew-like drops that collect upon the skin. But let it be remembered that the stomach is an organ, possessing a higher vitality than any other viscus of the abdomen, and that the detention and consequent loss of tone in it, must exercise a greater influence over the whole system, and on which account its immediate restoration becomes a matter of the first importance. I conceive then this organ to be in a state of *flabby distention*, if I may so speak, to have all its veins highly distended with blood going through a torpid circulation, its arteries contracted and enfeebled in the same ratio, and having a diminished temperature. If it be true, that through the medium of the stomach, we must hope to act upon the rest of the system, it behooves us first to prepare this organ for so important a duty; we must arouse its energies ere yet it be too late; we must bring on the tonic contractions of its muscular fibres; we must expel this black, venous blood, and endeavor to restore the arterial circulation to its natural superiority. What can do this but an *emetic?* We have no common cholera morbus to deal with, and would have nothing to fear in the use of such a remedy if we had. The choice of an emetic is, however, a matter of some consequence. The mustard I have never tried; all our common emetic medicines are either slow and uncertain, or else violent and dangerous. The Russian practice suggestsd the salt, and experience has proved it precisely what in every respect I would have it. My first course then is to dissolve two large spoonfuls of common salt in a pint of water as warm as the patient can bear it,

of which a tumblerful is given at once. Almost instantaneous emesis results, and generally some retching follows; if however, these are not sufficiently well effected, that is, if it appear probable that the stomach has not completely contracted, another tumblerful is given and our object attained.

The evacuation of the stomach is not the only advantage derived from an emetic. Nothing in these cases excites the heart to action so certainly as the retching that accompanies the act of vomiting; where stimuli have failed to make the slightest impression, the effort of vomiting has instantly restored an extinct pulse. But most of all, this operation is followed by a less irritable stomach, and if caution be observed suddenly in regard to drinks, no vomiting of any consequence will return. Thus we accomplish the grand objects of the first remedy; and so far as I have yet observed, if the salt fail to excite vomiting, the case is desperate. Immediately after the emetic, perhaps in five, ten, or fifteen minutes, twenty grains of calomel for an adult, mixed with a little white sugar, are placed in the mouth dry, and washed down with some cold water. This medicine is given at this time, not with the expectation of any immediate effects, but with a view to its subsequent operation. Ten grains are then given at intervals of an hour, until often a dram or more is taken. If reaction come on, the calomel is immediately stopped, as every object will be attained when the system is so far restored as to receive its influence. It is then the ulterior effect upon the secretions that makes its early use important, especially as it does not interfere with the other remedies next to be mentioned. It is now clear that thus far only one indication has been answered, viz. that of restoring the stomach to a more natural condition. The next important object is, to do for the rest of the system what we have done for the stomach, and is, to overcome or remove the universal venous congestion, but of course by a different means. For this purpose there is no substitute for venesection, and the blood must be drawn *from the veins.* It will not do to open an artery; this exhausts the patient, but does not relieve the *venous congestion.* In this respect, perhaps, we have an exception to all other cases; *we must then open the veins.* If the pulse is not perceptible, or if it be very feeble, it is better to begin by applying cups over the whole abdomen, and then if the pulse rise, we may open a vein in the arm, or in the foot, and watching the pulse, let the blood flow until re-action, or the improved condition of the patient indicates the attainment of our object. As regards bleeding from the arm, unless the pulse be full and hard, and there are violent spasms, we should be cautious not to resort to this practice too indiscriminately. I have seen it do no harm where a vein has been opened before the habits of the patient or the real object of the operation has been consulted. Although the pulse from the beginning has in some cases been so good as to bear a free bleeding, it has generally been necessary to resort to cupping before the restlessness and anxiety, (attendant upon the abdominal congestion,) have been relieved. For, the tossing about, the feeling of fulness and uneasiness, seem to me all to depend upon this torpid congestion of the

abdominal viscera. Although not always attainable, especially in country practice, a valuable adjuvant is obtained in the application of leeches to the epigastrium, but more particularly to the anus, for here we come directly to the point and draw blood from the abdomen. The next thing to be done, to retain the ground we have thus gained, is to apply a large blister over the epigastrium, and if we succeed in producing inflammation on the skin, (vesication is not necessary,) our patient may be considered in most cases convalescent. These are the grand principles of our practice founded upon the pathological view of this disease now offered to the medical profession in these remarks. But there are some other matters to be attended to, of no small importance.

1st. The nausea and occasional return of the vomiting; to relieve this, the effervescent draught, taken in a state of effervescence, and made in preference to fresh lemon juice or a little cold soda water, to which have been added ten or fifteen grains of sup. carb. soda, with ginger syrup, will prove most effectual. But do not let the patient indulge his desire for drink too freely. At this time it would appear that the pyloric orifice is obstinately closed, and absorption goes on so slowly in the mucous membrane of the stomach, that ultimate vomiting ensues as the only means nature has to relieve herself of an oppressive load.

2d. The thirst is so urgent, that it seems cruel to refuse the patient every drink, and yet it becomes our painful duty to restrain him in the gratification of his desire. With this view, ice is generally allowed, but in very small quantities. I prefer much limiting the patient to the use of cold water as a gargle, and have generally been highly gratified to see him, when made aware of the danger of swallowing so much water, amuse himself with both pleasure and relief in washing his mouth. The sensation of thirst, in this disease appears, as already stated, to be entirely a morbid nervous feeling. The tongue and mouth are cold and moist, a condition directly opposite to that generally accompanying thirst, and we have no reason to suppose that there is any increased temperature in the stomach to cause it, as the observation already made would go to prove, since as then remarked, the water which was thrown from the stomach was still cold. Would not hot drinks taken into the mouth, by restoring a natural action, tend to remove an unnatural condition?

If the patient be not an habitual drunkard, or have not any chronic affection of his viscera, this course will generally succeed in bringing on re-action, or to speak more correctly, in allowing re-action to come on. We first discover the doughy condition of the skin, replaced by a natural elasticity, so that if we pinch it up, it immediately retracts. This change is first noticed on the thighs and shoulders, whence it gradually progresses, to the remotest points, until life once more seems universally disseminated; at the same time the profuse sweats cease, and the surface, without becoming parched, as in a hot fever, presents a natural degree of warmth and dryness. The thirst also disappears,

an effect, in part, perhaps, of the calomel, as I have seen it relieved before the tongue had regained its warmth.

3d. We said nothing respecting the constant purging in our treatment, because we consider it merely as a symptom. If, however, the stools are copious and frequent, more as a matter of convenience than from any idea of their suppression benefitting the patient, the following injection is thrown up the rectum:—To one pint of cold water, add, acetat. plumbi, ozj.—one-half to be first used, and if rejected, the remainder. This will arrest the purging. It is more than probable that it extends its influence further than the large intestines, with which it comes in contact, for it has generally been remarked, that no discharges have come away after the use of this injection, until the calomel makes its appearance, escorting the bilious matters, the harbinger of our patient's recovery. The stools, it may be well to remark here, which make their appearance from twelve to twenty-four hours, or even later, after the exhibition of calomel, are very peculiar. They are thick and of a bright green color; so much so, that they are familiarly termed the "spinage stools." The improvement of the patient after this takes place, is remarkable.

4th. Respecting the cold extremities, as already stated, we do not regard them as a matter of consequence, in the treatment of the *disease.* Warmth is generally applied to the feet, legs, and thighs, by means of bags of hot sand or salt, but with another view; nor have I, as yet had any reason to suppose they have ever assisted in bringing on re-action; yet it must be acknowledged that they aid in its accomplishment when once it has commenced, and if used in time may prevent or protract the approach of the collapse; for then there is still vitality enough left to feel their influence; but what can we expect from heat applied to a surface, as it were, dead and insensible? In fact, have we not all seen hot applications impart their heat, only as they would to a block of wood, which feels it not, and loses it as easily as it was received? An exception has been hinted at—it is in cases where the cramps are very severe—heat applied to the muscles, and dry rubbing with the hand have proved highly beneficial in relieving the cramps, which are often so distressing as to cause the patient to cry out. The relief is so marked, that he will tell you where to place the hot bags, and beseech you to recur to the rubbing.

Some observations upon the employment of stimuli may not be out of place here. The practice which has now been recommended, is essentially *non-stimulant,* and yet it will, under certain circumstances, admit of the employment of stimuli. These are in cases of drunkards, and of relapses, after a moderate re-action. In the first, during the employment of the cupping, the calomel, &c. if the patient do not very soon show some amendment, it is advisable to resort to something that will aid a debilitated stomach in coming up to a proper standard of sensibility. Hence, a strong infusion of Cayenne pepper and cloves, a table-spoonful of which to the pint of boiling water, to which, in some cases may be added a little of the spt. camphoræ, act as a cordial stimulant, highly beneficial. Of this tea he may take one

or two table-spoonfuls every ten minutes, being allowed afterwards to rinse his mouth with cold water, but not to swallow it. The quantity allowed must be regulated by the effect upon the pulse. In addition to this, or sometimes as a substitute, hot brandy-toddy may be given. The carbonate of ammonia is apt to excite vomiting.

In the second case, viz. when the patient has been aroused from the torpid state of collapse, and has had bilious evacuations, showing a return of arterial action, if arising from previous debility, neglect, or feebleness of constitution, he again begin to sink, the same or milder stimuli, in smaller doses, however, may be used to advantage.

In some cases of this nature, the essence of beef, seasoned with salt and Cayenne pepper, is very grateful and restores the strength. In regard to the diet of a patient recovering from an attack of this strange affection, it is difficult to name any article that the patient will express a desire for; and in the more malignant cases, he will lie, for several days, in a state almost resembling that of the hibernating animals—he wants nothing—complains of nothing, and feels nothing. If watched carefully during this time, and the indications are met as they arise, there is no danger to be apprehended; nature will at length speak for herself; and as far as I have observed, it is generally safe to gratify the particular whim of the patient in any little matter he may desire. Hot green tea is highly grateful; cold lemonade, barley-water, chicken-water, oat-meal gruel, sago, arrow-root, mush and milk, &c., may afford us a choice, that will meet the wants of almost every case. But one thing ought to be remembered, as a general rule, that until the restoration of the *biliary and urinary secretions*, no nourishment can be wanted, and none should be allowed. The truth of this is evident in the fact that it is seldom or never called for by the patient, and his friends had better not anticipate the call. Before concluding these remarks, I will insert from the day-book the comparative results of the practice pursued, under the direction of the physician-in-chief, in the hospital, prior to the adoption of my practice, and of that which I introduced, upon the principles before explained. From July 27th to August 6th, fourteen cholera patients were received into the hospital; of these, five were cured and nine died. From August 7th inclusively, to August 21st, twenty-eight cases occurred, of these twenty were cured and eight died. Both computations have been made, by excluding all cases not choleric, and in each, some of the cases were moribund when received.

14. *Two Cases of Accidents from the Admission of Air into the Veins during Surgical Operations.* By John C. Warren, M. D., Professor of Anatomy and Surgery in Harvard University.—Some professional men have expressed doubts as to the accidental admission of air into the veins during surgical operations. Such doubts appeared well founded when the occurrence first attracted the attention of surgeons; especially on considering that veins about the neck were so very often wounded in the removal of tumors; and that some of them,

as the external jugular, are frequently opened for the purpose of taking blood, without any unfavorable consequences.

Not long since I had evidence of such cases in two of my own patients within no great distance of time from each other. The certainty of such accidents, and the possibility of their frequent occurrence, have led me to consider it a matter of duty to state them publicly, for the satisfaction and government of other surgeons. It seems to me remarkable, that nothing of the kind before occurred in my own practice, nor in that of my father and predecessor in a long and active surgical career.

Case I. Mr. William Burrill, of Salem, aged 60, was admitted into the Massachusetts General Hospital, on the 16th Oct. 1830. He had a cancerous affection of the left side of the face and neck, of the extent of three or four inches diameter. It was hard at the edges, of a livid red color, ulcerated in the centre, very offensive, very painful, and had made an impression on the general health. The parotid gland, the submaxillary, the sublingual, and all the textures, excepting the bone, were involved in the complaint. The lower jaw itself was thought to be diseased at first, but it afterwards appeared that it was not so. In so bad a state of things, I felt very little hope of being able to eradicate the disease, and would not have attempted any operation had not the patient solicited it.

Considering the extent of the disease, that important blood-vessels would be divided, namely, the facial and sublingual arteries, probably the temporal, and even the external carotid, I thought it best to begin by securing the carotid trunk. An incision for this purpose was begun opposite the thyroid cartilage, and carried two inches downwards. The platysma muscle was divided; the edge of the mastoid exposed and dissected. Thus far, only a few drops of blood were discharged. The face of the sheath of the great vessels was a little uncovered, when a small effusion of venous blood appeared under the knife, and checked the operation. At that instant a very distinct sound was heard, like the passage of air through water. A few bubbles were seen in the venous blood, the flow of which was immediately arrested by applying a finger on the part. The patient exclaimed "I am faint." On regarding his countenance, it was not pale, but livid, almost black, and the muscles agitated by a convulsive motion. The respiration became deep, labored, and stertorous, like that of apoplexy. Committing the compression of the vein to Dr. Hayward, who assisted me, I examined the pulse at the wrist, found it distinct, but very slow. The wound not bleeding, and very little blood having been lost, I directly opened the temporal artery, and the blood poured from it with great freedom. As it flowed, the respiration became more frequent and less laborious; the pulse at the wrist more natural. The leaden color in the cheeks assumed a reddish tinge; and the alarming character of the symptoms was evidently diminished. About twenty minutes elapsed during these changes. At the end of half an hour I judged it safe to remove the patient to his bed, where he lay in a state of insensibility for two hours; at the expiration of which he

awakened as from sleep, still breathing like an appoplectic. The night was passed without any accident, and on the following morning he was as well as usual, with the exception of a moderate soreness over the thorax, and a headache.

In seven days after the accident described above, the operation was performed without tying the carotid artery.

The diseased parts were included in an elliptical incision, extended from the lobe of the ear to the upper part of the neck, and including the submaxillary, the sublingual and parotid glands, all of them in a morbid and disorganized state. The os maxillare inferius was not diseased. The hæmorrhage was copious; but readily arrested, with the exception of that from a large vein, which from its depth under the jaw, could not be distinguished so as to admit the application of a ligature, and was therefore compressed by a sponge. The veins below the wound were compressed by Dr. Hayward during this operation. The patient experienced a slight faintness, which soon passed off. He had no bad symptoms, and on the 10th of December, the wound being nearly healed, he requested his discharge, which was granted.

Case II.—Nancy Bunker, of Trenton, in Maine, married, her age 33. Three years since, she noticed a hardness in the right breast, which increased till it involved the whole gland in a tumor, very hard, moveable, yet obviously connected with the pectoral muscle by a morbid adhesion. The nipple is drawn in. The axilla is occupied by a considerable tumor of a globular form, and quite hard. The disease has been accompanied during the last year with very constant lancinating pains. The patient is desirous of an operation; has a strong conviction that she shall not recover; yet is perfectly tranquil and resigned.

On a careful examination of the tumor, it seemed that the whole of the diseased parts could be removed, and it being thought that the patient would thus have a chance for life, and that if the disease re-appeared, her sufferings would be less than if the gland were allowed to remain. The operation was performed on the 24th December, 1831.

The patient sat in a chair. The right arm was extended, raised above a horizontal line, in order to give tension to the skin, and permit access to the arm-pit—and was supported in this position by an assistant. The skin on the surface of the breast, with the diseased nipple, were included in an oval incision, the breast was dissected from the pectoral muscle, and left connected with the axillary glands, while the extirpation of these glands was effected. As they adhered to the axillary vessels they were cautiously detached by dissection, and by insinuating the finger where the cellular substance was loose, between the tumor and the great vein. This separation was nearly effected—only a slight connexion still existing at either extremity of the tumor. Proceeding to separate it, at the outer part of the axilla, a vein was divided and a small quantity of venous blood discharged. This obscured the parts at that point, and the knife was therefore carried to the other extremity of the tumor. Scarcely was this done when the

patient struggled, and on regarding her, I perceived her complexion to be a livid pale color, and at the same instant the bubbling or clucking noise was heard, though indistinctly, but the place from which it issued was not visible, the surrounding skin and fat having fallen over it, at the moment of the transfer of the knife. Directly, the axilla was compressed—the patient became insensible, breathing in a distressed manner, as in apoplexy. The tumor was at once separated. The posture of the patient was changed, and she was supported by those around. Some brandy was poured down, and ammonia was introduced into the nostrils. The pulse, however, became less distinct every instant. Cloths dipped in hot water were thrown over the extremities. Strong frictions were applied to the chest and to all parts of the body. Considerable quantities of brandy were again poured down the throat. At this moment the livid color of the cheeks gave place to a suffusion of vermilion red, and no glow in the cheek of a youthful beauty ever gave one so much pleasure as that flush. I was turning to the class who watched the different operations with intense anxiety, to say, the "danger is over," but checked myself, and continued the efforts. But the flush soon passed off; the lividity re-appeared; the respiration became more feeble; pulse at the wrist scarcely perceptible; and notwithstanding the redoubled applications of external heat and moisture, the extremities and the whole body cooled rapidly, and presently the respiration ceased.

As a last effort, I opened the larynx and put in operation the inflation of the lungs by a bellows, in a very speedy and perfect manner—imitating the movements of inspiration and expiration with great exactness—continuing the general application of heat and frictions to the whole surface. These administrations were continued for about twenty minutes longer, without any encouraging appearances. At the end of this time, I perceived there was no remaining hope of the restoration of my patient to life. The friends being anxious to take advantage of a vessel then sailing for their home, the body was soon after removed, and no opportunity afforded for examination.

The effect of the entrance of air into the blood-vessels appear to have been known to Lieutaud Morgagni, and other distinguished pathologists, but the danger of such an occurrence in surgical operations does not seem to have been adverted to, until the operation of M. Dupuytren, in which the admission of air through the external jugular proved suddenly fatal. Since the publication of this fact, the occurrence has presented itself to many surgeons in great Britain and this country.

A natural scepticism in regard to these accidents has arisen from not considering the peculiar action of the auricles of the heart. How, it is asked, can air force itself into the veins, which are already filled with blood, and at the moment this fluid is discharging itself from an aperture in the vessel? The possibility of the accident will be however admitted, on recollecting that the auricles act not only like an expelling syringe, when they drive the blood into the ventricles, but that

they have the power of suction, when they dilate themselves, thus sucking the blood from the two cavæ. This suction power of the auricles explains what would otherwise be unintelligible. The movement of blood through the large inactive veins near the heart.

There remains another difficulty. Why do not the sides of these veins collapse when the blood is pumped from them by the auricle? and if they do thus collapse, how can air be drawn in through a small aperture in one of these vessels? This objection has been removed by M. Berard, who has shown that the large veins near the heart are protected by fasciæ, connected to the coats of the veins by cellular substance. The fasciæ themselves are attached to bones, in such way as to prevent their collapsing on the veins. Further, it may sometimes happen that the coats of a vein assume a morbid structure, which gives them an unhealthy rigidity, and in this manner prevents their collapse. This occurred to M. Dupuytren, as I am informed by my friend Dr. Lodge, who was in Paris at the time. M. Dupuytren, being about to divide a large varicose saphena vein, expressed some apprehension that air might be admitted, and that the result would be fatal. The vein was divided, the peculiar sound of the entrance of air was heard, and the patient expired.

In the first of the cases above related, the vein opened was a small vein crossing the neck from the median external jugular to the great internal jugular. At least I presume this to have been the vessel, though there can be no certainty of its identity, the incision in the neck being small; the parts being not much uncovered, and the sheath of the internal jugular not opened. This small vein, stretched across the neck, was kept tense by its attachment to fixed veins at each extremity, and would thus be in a favorable position for the admission of air on the suction of the auricle.

The vein opened in the second case was the subscapular. It did not seem to be large, though perfectly visible before it was cut—and the point of incision was at a sensible distance from the great axillary vein—say nearly an inch. The dissection had separated it from the surrounding parts in a considerable degree. The axillary cavity was extensively dissected; so that the attachments of the fasciæ covering the great vein must have been much relaxed.

Here then was a small vein at some distance from the heart, dissected from the surrounding parts; and its receiving vein also dissected. The coats of the vein were not visibly diseased. The explanations of M. Berard will not therefore apply. The cause of the phenomenon in this case is to be sought in the position of the arm. The limb was extended and elevated; in consequence of which the axillary vein was in a state of extreme tension. The subscapular vein was also kept tense by the chain of axillary glands, and by the weight of the depending breast; for this organ had not been separated from the glands, in order that they might be drawn down by it and exposed.

The possibility of these accidents, under circumstances like those above, where there could be so little reason to fear them, must be a cause of anxiety to operators, in the removal of tumors from the neck

and arm-pit; and I know of no effectual means to guard against them. *Pressure* on the vessels intervening between the disease and the heart, would often be impracticable; and where it could be applied, the tension of the fasciæ would generally render it abortive. Causing the patient to *expire* the air from the lungs could only be practised for a moment. *Change of position*, by relaxing the vessels, would do something; yet the state of tension must in many cases be resumed, in order to carry on the operation. The immediate compression of the vessel on the appearance of the accident, might sometimes save the patient from death, though not from very threatening appearances. For in the first place the patient's life was preserved: but although the accident was instantaneously arrested, he was saved with difficulty.

On a view of all these considerations, it appears prudent to suspend an operation in the vicinity of the heart, at the instant of appearance of venous blood from a suspicious point; and to compress the vessel, that time may be had for observing whether dangerous symptoms are likely to arise, and if these actually appear, we should directly resort to the means spoken of. First, compress the orifice of the bleeding vein with the utmost care. Second, apply pressure on the veins between the wound and the heart. Third, relax the part in which the vein is seated. Fourth, the patient may be directed to expire the air from the lungs.

The means to be pursued for saving life, after air has been admitted, have been stated in the history of these two cases, and I know of none more effectual than were adopted. The opening of the temporal artery gave great relief to case I. It was not resorted to in case II., because the patient had already lost as much blood as she could spare during the operation.

16. *A Letter on Cholera, from* Professor Chapman, *to Dr. Tyler*, —My Dear Sir—I have delayed to answer your letter till I had formed some decision as to the nature and treatment of the Pestilential Cholera which is now prevailing. These are points on which so much difference of opinion existed, that I found it impossible to make up my mind as to them, without the light of actual observation and experience. I have now seen the disease sufficiently to enable me to arrive at satisfactory, and I trust, just conclusions on the subject. But I can present in the narrow compass of a letter, only a very concise and imperfect exhibition of my views; and indeed, such are my incessant occupations, that I have scarcely leisure to execute even this slight sketch.

The disease, *wholly independent of contagion*, is caused by an epidemic agency, of which we know nothing with certainty. It is not improbable, however, that it is owing to an aeriform poison, which acting through the medium of the stomach on the ganglionic nerves, so impairs that systemt that its functions are in a greater or less degree suspended. As always happens, where sensorial or nervous influence is withheld, there is, in this case, a recession of blood from the periphery of the body, and correspondent accumulations of it in the deep

seated vessels, subversive of the proper distribution of it in the circulation, attended by a vitiation or suppression of the secretions. This, in a word, is my theory of the disease, the truth of which, I think, is sustained by the symptoms, the phenomena on dissection, and the mode of cure.

It is generally held here, that cholera is almost uniformly preceded by considerable disturbances of the alimentary canal, by nausea or purging, or the two united.—That affections of this sort are very common in the city and elsewhere, cannot be denied. But whether they constitute the preliminary stage of the disease is very doubtful. It seems to me they ought rather to be considered as a condition, arising from distinct source of irritation predisposing to the disease. Can it be credited, that a cause ultimately operating so powerfully as that of cholera, should endure for three or four or five days, merely teasing in this slight manner, the stomach or bowels? The transition from these mild and lingering affections, to the explosion of cholera in its fullest force, is far too sudden and violent, to suppose that they are one and the same disease varied only by stages. I know not the analogies by which the hypothesis can be supported. Nor is this preclusive indisposition mentioned by any of the writers on Asiatic cholera whom I have consulted. It is scarcely to be presumed, that so prominent a fact, had it an existence, could have possibly escaped the attention of these very able and experienced historians of the disease.

Being attached to armies, and more particularly from their position in Hospitals, they enjoyed the best and peculiar advantages, for accurate and discriminating observations. It was first noticed, and promulgated by some of the British publications, though not sanctioned by all, and from a similar coincidence of such derangements with the epidemic in this country, the notion has been espoused by us. Be it as it may, these disorders should at once be removed, as they are apt, at all events, to invite an attack of cholera. They do not differ from the ordinary complaints of the season, and require no peculiar management.

Genuine cholera, for the most part, comes on with little or no premonition. The earliest symptoms are complaints of load and oppression, and anxiety about the præcordia, with an internal sense of heat, referrible to the stomach or bowels, with great thirst and a whitish tongue, and at the same time, the head is confused, the expression of countenance haggard, accompanied by slight nervous tremors, muscular weakness, cool skin, and either a quick and somewhat feeble, or a full and struggling pulse. Copious evacuations upwards and downwards, of a fluid resembling dirty or turbid rice-water, with flocculi mixed in it, soon occur, followed by cramps or spasms of the muscles of the extremities and abdomen. These are seldom so violent as has been represented, and never extend to the alimentary canal. An aggravation of the preceding symptoms rapidly takes place, and in an hour or more, the tongue becomes icy cold, the skin more chilled and sodden, though feeling hot to the patient, coveree with dewy viscid perspiration, the hands shrivelled or wilted, as if macerated, the nails of

the fingers blue, the pulse scarcely or not at all perceptible, the face sunken, especially the eyes, around which is a dark circle. The color gradually diffuses itself more or less over the entire surface, partaking of the varied shades of lividness, from a saturine to a bluish or blackish hue. During this period the thirst is intense, the heat of the stomach in some instances is increased to a burning sensation, the respiration greatly embarrassed, the air expired cold, the voice low, or whispering and plaintive, the diaphragm convulsed, and there is a total suppression of the urinary and other secretions. Discharges from the alimentary canal, and the spasms, likewise cease or are much diminished. The intellectual faculties, though obtuse, are seldom otherwise affected, and in some instances, their integrity is throughout preserved. Death ultimately takes place in a sort of tranquil stupor, or with indescribable jactitation and distress, the latter state being by far the more common.

As I have briefly described the disease, such is the tenor of its character and progress, though occasionally diversified in some respects. Thus I have seen its accession as sudden as the electric shock, and have met with cases without spasms, or vomiting or purging. Many other anomalies might be mentioned, could I indulge in such details. The disease may be properly divided, in most instances, into two stages—that of aggression and collapse.

Called at the commencement of an attack, unless there is an extreme depression, I bleed freely from the arm, and uniformly cup the epigastrium, and give calomel largely, combined or not with opium, according to the severity of the spasms. The case will almost invariably yield to these remedies, and we have no further trouble concerning it. But where the attack is confirmed, or in other words the state of collapse exists, the difficulties of management are vastly increased, and the practice is somewhat different. The first step under such circumstances is to puke actively with tepid salt and water, a tumblerful at a time. This usually settles the stomach, allays thirst, produces some degree of re-action, a stronger pulse, increased warmth of surface, and a resolution of the spasms. Co-operating in the same design of arousing the vital forces, and exciting the skin particularly, the body and extremities may be rubbed with warm flannels. Let a vein be then opened, and if the blood flows freely, take a large quantity, and especially should the pulse rise and the blood become florid. But where the reverse happens, or you have slowly to coax out the blood, or the pulse is sensibly weakened by the loss of it, stop the operation, and apply twenty or thirty cups to the abdomen, including the epigastrium, which, though they may not draw much blood, are eminently serviceable as revellents—the cups are to be succeeded by a blister to the same parts. Calomel is next to be given in the dose of five, ten or twenty grains, frequently repeated, till the aggregate amounts to about a drachm, and then worked off with a table spoonful of castor oil. As the result of these means there are commonly bilious evacuations, discharges of urine, and other proofs of the restoration of secretory power. Little more is demanded than what has been

mentioned. I have however, sometimes known, though rarely, at this point of the case, irritability of the stomach to return, with the appearance of approaching exhaustion, in which event stimuli are to be resorted to—the best of which are, a strong infusion of Cayenne pepper, or clove tea, or spirits of camphor, or the aromatic spirits of amonia, or mint julep. Bnt they are cautiously to be administered, and in small potions, of they are instantly rejected, or they overwhelm the energies of life, or more slowly induce typhoid prostration.

Drink is sometimes vehemently solicited, particularly in the height of the attack, and the instinctive desire for cold water, or even for ice, may be gratified in moderation. The proper nourishment in convalescence, the only time when any is wanted or to be allowed, is chicken water or beef tea, rendered agreeably pungent with Cayenne pepper. Thus I have hastily laid before you an outline of my mode of managing this disease. It may be observed that, with scarcely an exception, it is depletory or evacuant. Deluded by false appearances of debility in the disease, and still more by the weight of authority, I adopted, when it first broke out among us, in common with my medical friends, a course of practice in conformity with such an impression—and most disastrous was the issue. Nearly every patient, amounting to five or six, in different hospitals, died. The prominent indications seemed to call for heat to the surface, and the internal exhibition of the diffusible excitants. Every variety of bath, warm water, vapor, heated air and topical applications of hot sand or oats, or salt, &c. were used, and also frictions with the spirits of turpentine alone, or united with camphorated mercurial ointment, and other articles. Brandy, ether, camphor, vol. alkali, &c. &c., were in succession tried, and the whole of these means with no other effect than an inconsiderable exasperation. The suffering, indeed, induced, was as great as I have ever witnessed from the application of any remedial process. No practical lesson is more important than that in the cure of this disease, all such appliances and medicines are mischievous, till evacuations are premised, and then to be most discreetly directed. The system previously, is utterly intolerant of them, and I have found it better to expose the patient naked to cool air, than to cover him over even with a blanket.

It were easy to acquaint you with divers other methods of treating this epidemic, or to enumerate a number of special remedies that have been proposed. Dismayed, as it were, from the fearful character of the disease, practitioners have been too prone in its treatment, to abandon their principles and well tried remedies, in analogous cases, to seek a resource in specifics and nostrums.

I do not mean to vaunt of my success, but on a fair comparison of all that I have seen attempted, I am led to an unqualified preference of this plan. It cannot be charged with being tentative or empirical—is deduced, on the contrary, from established views of pathology and therapeutics, and is sanctioned in most of its features by the lengthened and concurrent experienced and authoritative writers on the disease in India. Many may be cured by it, and some will sink under the

force of the attack in despite of your efforts. The case not being too far advanced, a triumph over the disease is pretty certain. Cholera is, on the whole, more tractable than yellow fever, or the winter pestilence which devastated our country during the late war.

Ever, my dear sir, yours, most truly, NATHAN CHAPMAN

Philadelphia, August 13, 1832.

17. *Dr. Clarke's Algid Fever of Smyrna compared with Dr. Barry's Blue Cholera.*—Sir,—In the October Number (1826) of the Medico-Chirurgical Review, there is published a paper written by Dr. Clarke, descriptive of a strange disease that was epidemic at Smyrna, in 1825–6, and which bears so striking a likeness to the worst cases of blue cholera, that the following passage may be worth transcribing at the present moment.

"There is no shivering, nor is the slightest sensation of cold complained of. The pulse, if felt at all, is thready and rapid, disappearing under the slightest pressure of the finger. There is, more usually, a total want of pulsation in all tangible vessels, and even in the region of the heart. The countenance, in some cases, is livid, and betrays unspeakable anguish. The features are withered and shrunk. The intellectual powers are, for the most part, but little impaired, and there is frequently a command of muscular exertion a calm composure and self-possession, which would lead any one, unacquainted with the patient's situation to believe him free from complaint. But when the fingers are applied to the wrist, and the pulse is sought in vain—when the more than deadly coldness of the surface is perceived, the illusion vanishes. In this state of equivocal existence, he continues from ten to eighteen or twenty-four hours, and, in some cases, much longer, when, if he survives the paroxysm by the persevering application of remedies, and the re-active energies of the system, an increase of temperature takes place, which gradually acquires different degrees of intensity, and occasionally requires to be moderated."—MEDICUS.

The above description is so perfectly identical with some of the very *worst forms* of the present epidemic, that we think it is well worthy of a place here.—*Medico-Chirurg. Rev.*

18. *Two Cases of Dysentery, accompanied by an unusual Affection of the Skin.* Communicated in a letter to the Editors by A. B. Price, M. D.

GENTLEMEN: I am induced to send you this communication, because I have not seen a similar case recorded, and from a full belief, that it is the duty of every member of the profession to contribute his mite to the general stock of knowledge.

The following history of two anomalous cases of Dysentery, occurred in this vicinity, and was related to me by the father of

the subjects of the case; and may be relied upon as strictly correct, as he is a man of unblemished character.

In the summer of 1824, the flux prevailed in this neighborhood generally. Among the first cases, were two of his children, who were attacked severely, though one more severely than the other. The treatment was domestic; consisting of a cathartic, at the outset, followed by a liberal use of a decoction of the dewberry in milk, and slippery elm emulsion. In a few days after this plan was adopted, the discharge from the intestines suddenly ceased, and the skin of the body and extremities, in patches of some size, assumed the appearance of a blistered surface; from which proceeded a thin discharge, of a pale, milky appearance, which ran down the legs in great profusion. The little patients were in an uncomfortable situation; they could neither stand, lie, nor sit long at a time; the discharge from the skin bore an exact relation to the severity of the discharge from the bowels, in both cases; it gradually diminished, and in a few days ceased. The children convalesced from the time that it commenced running. Was not this a metastasis of Dysentery?—if not, what was it?

The above is the substance of what was related to me by the father of the children.

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19. *Elements of Chemical Philosophy, on the basis of Reid, comprizing the Rudiments of that Science, &c.* By Thomas D. Mitchell, M. D. Corey and Fairbank—pp. 600.—We have just received from the publishers a copy of the above work, and from a hasty view of it are disposed to entertain a very favorable opinion of it as a text book for students of Medicine, and a book of reference for general readers. We shall notice it more particularly in our next number. It is published in a very superior style of execution highly creditable to the enterprizing publishers.